THE CULTIVATOR.

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"TO IMPROVE THE SOIL AND THE MIND."

AGENCY FOR THE CULTIVATOR IN LONDON.—Orders and advertisements for "The Cultivator," are received in London, by P. L. SIMMONDS, Foreign Newspaper Agent, Agricultural Agency Office, 18 Cornhill, opposite the Royal Exchange.

MONTHLY NOTICES.

Communications have been received since our last, from Martha, Geo. Allen, (sent to T. B. W.) J. N. Smith, A. R. M'Cord, Geo. Woodfin, Geo. F. Baltzell, J. G. Wheeler, W. H. Sotham, L. F. Allen, Isaaac Hinckley, V., T. R. Hussey, A. R. D., G. Butler, David Palmer, E. Hubbard, S. B., Wm. Cline, J. R. Speed, R. L. Pell, M. R. H. Garnett, T. M. Niven, Connecticut Boy, S. E. Todd, A. S., A. Petrie, A Friend to Real Improvement, J. M. Johnson.

☞ Mr. NIVEN'S description and drawing of his Filtering Cistern, shall have a place in our next. We shall be greatly obliged if Mr. N. will favor us with a description and the necessary drawings of the dog power churns used in Orange county.

☞ The letter of L. F. ALLEN, Esq., to the Recording Secretary of the State Ag. Society, was forwarded to the Committee having the matters to which it referred in charge.

☞ The communication of J. R. SPEED, Esq. with the accompanying engraving, shall have a place in our next, it having come too late for a suitable place in this number. We hope to see the animal itself at the State Fair at Rochester.

☞ We are indebted to GEO. F. BALTZELL, Esq., Apalachicola, Florida, for a quantity of melon seeds, of varities which have proved very superior in that vicinity. "Watermelons of this kind," he says, "have been raised, weighing 60 lbs., and are peculiarly sweet and mellow to the taste." We shall give them a fair trial, and report on their merits in this climate. Also to D. A. BULKLEY, for seeds of a large pumpkin, grown in Illinois the last season, which weighed 166 lbs.

☞ The *Bassano Beet*, mentioned in our April no., was introduced into this country, by M. B. BATEHAM, Esq. Editor of the New Genesee Farmer, to whom we are under obligations for a paper of the seed.

P. F. W., Columbia, Pa.—The no. requested was duly forwarded. Please "write," and we will pay the postage.

J. G. W.—The price of Hussey's Corn and Cob Crusher, is $35—of Baldwin's, $65. For descriptions of both these machines, see Cultivator for Jan., p. 19. They would not, we imagine, answer to grind plaster.

COLMAN'S TOUR.—We shall be happy to receive subscriptions for this work. It will be published in Boston, by A. D. PHELPS, Mr. C.'s agent, to whom any communications for Mr. Colman, may be addressed during his absence.

COVERING SEEDS WITH STRAW, LEAVES, &c.—Extract of a letter from S. WELLER, Esq., Brinkleyville, N. C., to the Editors of the Cultivator:—"I have just learned from a most respectable source, that my system of surface covering of small grain, with pine straw and other litter, to insure a good crop, with the additional one of clover, on ground that would otherwise probably fail, is practiced with the happiest results, by some of the best farmers in the state of Virginia; and that one in particular, accounted second to none in agricultural improvement and skill in farming, covers his small grain often a foot thick with straw or other litter, and finds himself most amply compensated in yield of crops and improvement of land, for his trouble in so doing."

SPECIMENS OF WOOL.—We have received from M. R. COCKRELL, Esq. near Nashville, Tenn., some specimens of wool from his flock of Saxony sheep, of a very fine quality. Also specimens from his long-wooled sheep, which we think it would be difficult for our northern flock masters to match. [T. D. will write to Mr. C.]

☞ The editor of the *American Farmer*, is mistaken in supposing that the Legislature of this state have withdrawn their aid to the New-York State or County Ag. Societies. The appropriation was originally for five years, but two of which have passed. The bill introduced at the late session of the Legislature, was intended to make the appropriation *permanent*; but this was not deemed necessary at this early day.

☞ The seventh number of CAREY & HART'S edition of the *Farmer's Encyclopedia*, has been received. It is accompanied by a handsome plate of the principal Seed Drills used in England. Will the publishers please send us the 6th no. which has not come to hand?

THE NORTHERN LIGHT.—This valuable work has just entered its third vol. under the principal editorial direction of A. B. STREET, Esq., a gentleman eminently qualified for the duty. The first number of the new vol. is one of unusual interest. It contains original papers from Dr. T. R. Beck, C. N. Bement, Dr. E. B. O'Calligan, Messrs. A. B. Street, S. S. Randall, E. G. Squier, the late Cicero Loveridge, and others. It is printed in the same form any style as the Cultivator, and at the same price. Address "Editors of the Northern Light, Albany."

The April no. of the "Medico-Chirurgical Review, and Journal of Practical Medicine," published in London, has been promptly issued by R. & G. S. Wood, New-York, by whom it is regularly re-published, at $5,00 per annum.

BLACKWOOD'S MAGAZINE.—We are indebted to the publishers of the "New World," for their cheap re-print of this well known monthly. Having received a copy of the May no. in advance of its publication at home, by the Great Western, it was issued in New-York only fifteen days after its publication in London. The leading article in the April no. is an able review of the first vol. of Stephen's "Book of the Farm," now publishing in Edinburgh, in monthly parts. This re-print of the Magazine entire, is afforded at the low price of $2,00 a year, making it, as the publishers truly say, "the cheapest magazine in the world."

"*The True Genesee Farmer*" has been discontinued, and its subscription transferred to the "*New Genesee Farmer*," which has been reduced in size and price one-half. M. B. BATEHAM, Esq., succeeds Mr. Colman as editor.

☞ THE notice of the Farmer's Club of Wilmington, in the Cultivator for May, should have been credited to the Delaware *Republican*, instead of Gazette.

THE CUT WORM.—The Germantown Telegraph states that Mr. Isaac Newton of Delaware co., Pa., has discovered what is considered a certain remedy for the ravages of the cut worm. He has tried it several seasons, and in all cases with entire success. It is simply by mixing fine salt with plaster, in the proportion of one quart of salt to four quarts of plaster, and applying it to the corn after it has come up. Care must be taken not to sprinkle the plant itself with the mixture.

YOUNG MEN.—One of the most favorable "signs of the times" is to be found in the desire which is beginning to be manifested by many young men of education and wealth, to engage in agricultural pursuits instead of pressing into the already overfilled ranks of the mercantile and "learned" professions. The following extract is from a letter of a New-York merchant, who had applied to us to aid him in finding a place for his two sons with an intelligent practical farmer, where they could qualify themselves to manage a farm to advantage. He says, and truly, that "it is desirable for the public good and for the progress of agricultural science, that young men of education and respectability should, in place of crowding into large cities to live under constant excitement, and to waste their lives in dreams of affluence, devote themselves to agriculture, the noblest of all occupations—in pursuing which they may live in tranquil enjoyment—cultivating the intellectual and immortal spirit This would raise up a class of well-informed farmers—the true nobility of the country."

FARNHAM'S TOUR ACROSS THE ROCKY MOUNTAINS.—This publication, from the press of the Tribune, is one of the most interesting books of the season. We allude to it again, for the purpose of giving the following, as showing in connection with preceding passages, the immense numbers of buffalo that still exist on the plains of the west. The scene was on the Arkansas river, a little below where it escapes from the mountains: "The buffalo during the last three days had covered the whole country so completely, that it oftentimes appeared extremely dangerous, even for the immense cavalcade of the Santa Fe traders, to attempt to break its way through them. We travelled at the rate of fifteen miles a day. The length of sight on either side of the trail fifteen miles; on both sides thirty miles: thus a space of some forty-five miles in length by thirty in breadth, or 1,350 square miles of country, was so thickly covered with these noble animals, that when viewed from a height, it scarcely afforded a sight of a square league of its surface. What a quantity of food for the sustenance of the Indian, and the white pilgrim of these plains!" Some butchers were present in the caravan, and they agreed, "that many of the large bulls would weigh 3,000 pounds and upwards; and that as a general rule, the buffalo were much larger and heavier than the domesticated cattle of the States."

MILK AND RAILROADS.

THERE is scarcely an article that can be named so essential to the health and comfort of families as milk, and it is believed there is no one in which more gross impositions have in many cases been practiced on the consumer. The account given by Mr. Colman of the milk used in New-York, cannot be pronounced an exaggeration; and we know no good reason why that account should be applicable to that city alone. But a brighter day is dawning on the dwellers in cities, so far as milk is concerned; and the venders of swill slop, cold water, and artificial milks, are finding their occupations seriously endangered. This is being brought about in a great degree by the influence of railroads, which, spreading a network over the country, and centering in the cities, bring the farmer or dairyman residing 50 miles from the city within a few hours ride, and enable him to offer his products in the best possible condition for competition. This effect was first extensively felt in Boston, in the reduction of the price and bettering the quality of milk, though that city had never been condemned to use such scandalous stuff as was sold in some other places for milk. At the present time a large portion of the milk used in that city is received by the railroad from country dairies. The same beneficial results are beginning to be felt in New-York, much to the annoyance, as we gather from the newspapers, of the amateurs of artificial milk in the metropolis. By the New-York and Erie railroad the milk of the cows fed on the sweet pastures of Orange, and the rich dairies of Ulster, are brought within four or five hours of New-York, and the milk business is becoming extensive and profitable. As was expected, a spirit of rivalry has been called out among the old milkmen against their new competitors, and some insinuated that the Orange milk could not be kept sweet so long, unless some deleterious chemical preparation was added. The following account given by an Orange Co. farmer, of the manner in which their milk is sent to market, satisfactorily accounts for its keeping so well, since pure milk, quickly cooled and kept at a low temperature, will be sweet for a long time, even in warm weather:

The cows are milked early in the morning at Goshen and its vicinity, the milk put into cans containing from 60 to 75 quarts, into which a tin tube filled with ice is inserted, and stirred until the animal heat is expelled from the milk. It is then sent by the railroad, and arrives, a distance of 80 miles, at the milk depots (which are numerous in the city,) in four and a half hours. The tube filled with ice is again inserted, and the milk thus kept cool and sweet until sold. It can be afforded to the public at four cents per quart, of which the farmer gets two cents per quart and is well satisfied, as it yields more than butter at 25 cents per pound.

When we recollect the vast influence which this method of supplying milk to cities has on their health and expenditures, and the advantages it affords farmers of an easy and profitable mode of disposing of this part of their produce, the mutual benefits of quick and certain modes of communication between the city and country become strikingly apparent.

SUBSOIL PLOWING.

We have had several inquiries as to subsoil plows, the method of using them, and the advantages resulting from their employment, and we propose to throw into one article, the answer to these several topics.

There are few things in the march of agricultural improvement, that have within the last few years excited more attention than that method of ameliorating the soil called subsoil plowing. It is well known to the farmer, that in ordinary cases the soil, or that part of the earth from which the vegetable derives its nourishment, does not extend in depth beyond the point penetrated by the plow, and this, being but a few inches, does not afford sufficient range for the roots, and is soon exhausted of its fertilizing properties. Where it is thus shallow, the soil, and consequently the plants, are more liable to suffer from drouth, or from excess of surface water, than where the roots have more room to penetrate, or where greater facilities are afforded for the discharge of water. It is to give a better seed bed, provide a more extensive range for the roots of the cultivated plants, and guard against excessive drouth or moisture, that subsoil plowing has been introduced.

As it is requisite the subsoil plow should penetrate to a much greater depth than the common plow, and into earth that had not before been stirred, it is evident a powerful implement and a strong team would be required. This would be the more necessary, if it was intended to bring this subsoil earth to the surface, by reversing the order of position, as is done when the surface is turned over by the common plow. But it is not intended or desired to bring this newly stirred earth to the surface; the subsoil plow is used only to break up this dense compact earth, and render it porous and permeable, while its comparative position remains unchanged. Still the subsoil plow must be heavy, strong, and of the best materials and workmanship, or they will fail under the hard trials to which they must be exposed. The first English subsoil plows were, however, much heavier, and consequently more clumsy and unwieldy than experience has proved to be necessary; and though those at present used there, are lighter and better than formerly, those imported have been found heavier than was required for the generality of our soils, and those that have been manufactured in this country, have been of a still lighter and more portable cast. At first not less than six horses were deemed necessary to work the subsoil plow, and frequently eight were used; now four are considered sufficient for all ordinary soils, and three good horses will subsoil to the depth of 18 inches any soil of the less dense and tenacious kind. The worst soils, or those that require the most force, are clays in which pebbles are imbedded, or the common hardpan of farmers; and next to this is pure clay, which is always difficult to move.

In using the subsoil plow, experience has shown that the best method, the one which is the easiest for the team, and which moves and breaks up the soil the deepest and most effectually, is to precede it with a common plow, which will invert the sod or surface to the depth of six or seven inches. In the furrow made by this plow, and following it, the subsoil plow passes, penetrating the earth to the depth of from twelve to fourteen inches, and breaking up or crumbling the earth to that depth. A new furrow slice is by the common plow turned on the work done by the subsoil one, and this process is followed until the field is finished. It is always better to use a team sufficiently strong to do this work easily, than from the want of power, to compel the animals used to a constant severe exertion of their strength.

On the first introduction of the subsoil plow, it was supposed that it would prevent the necessity for draining soils; but experience showed that in many cases, and particularly on retentive clay ones, lying level, and having but an imperfect natural drainage, the subsoil plow aggravated the evil it was in part intended to remove. It was found that on such soils, the water falling upon the surface did not flow off as readily as before; the broken up earth retained it in greater quantities, and to greater depths, and the further operations of plowing and tilling converted it into a quagmire or rather mortar bed of the worst kind. On all retentive soils, it has therefore come to be considered a settled point in husbandry, that draining should precede subsoil plowing, if it is expected to derive the greatest advantages from its use. It is not necessary that the drains should be as numerous as where this mode of plowing is not adopted, but should be so arranged as to accommodate the natural flow of the water, and of a depth sufficient to preserve their coverings from the action of the plow. With drains thus arranged, the water which sinks into the soil broken up by the subsoil plow, is not retained, but passes off readily, giving a dry, and consequently warm and friable soil to the depth penetrated by the implement. It is well known that the value of a soil can usually be determined by its depth. Subsoil plowing by rendering it accessible to the ameliorating influences of the air, and by permitting the descent of surface manures for incorporation with the before sterile earth, secures the depth so desirable for the perfect cultivation of plants. Many years ago, before the subsoil plow was invented, Judge Powell of Pennsylvania, said that by increasing the depth to which the plow penetrated, at each course of rotation in culture, he had brought some lands naturally shallow, to have a depth of excellent soil of fourteen inches. Wheat rarely or never freezes out of soils so well drained, and so friable as to allow the roots to penetrate freely to this depth, and the drain and the deep plowing combined, have much lessened this to the English as well as American wheat grower, the worst difficulty they have to encounter.

In almost every instance where we have known subsoil plowing tried in this country, it has been highly successful, and where it has partially failed, it may, we think, be mostly attributed to the cause we have mentioned—not attending to a proper drainage of the ground In the country generally, we can hardly expect farmers to adopt methods of farming which will add materially to the cost of production: distance from market and cheapness of land combine to prevent this; but in the neighborhood of cities, or the vicinity of good markets, where it is desirable to give the soil its greatest degree of productiveness, without regard to the expense, the subsoil plow will be found an important auxiliary. That its use will continue to spread as its merits become known, is scarcely to be questioned, and on the best cultivated farms of the interior, the subsoil plow is now frequently met with.

Subsoil plows of excellent workmanship, and constructed on the most approved principles, are made in great numbers by the firms of Ruggles, Nourse & Co., Worcester, Mass., and Prouty & Mears, Boston. They are to be found at most of the Agricultural implement and seed stores of the country, and deserve the attention of farmers generally.

FEEDING HORSES.

Various opinions are entertained as to the best and most economical mode of feeding horses, and many experiments are on record that have been instituted to settle the question. The result seems to be, that at the ordinary prices of grain and hay, it is cheaper to keep horses on grain, than on hay, or on hay and grain. There is another important matter to be considered, however, and that is, is feeding entirely with grain, as conducive to the health of the animal, as a mixture of hay and grain. We do not believe it to be; and the general result of the experiments has been to show that it is not. Our own experience too would lead us to speak decidedly upon this point. We have tried feeding horses upon grain alone, and upon grain and hay, and found the latter the best for the animals. They were not so shrunk up or gaunt, there was more muscle and consequently more weight, and whatever may be thought of this latter quality in a race horse, where nothing but sinews and bones are required, every farmer knows that the road or farm horse is worth but little without weight. Feeding horses on grain alone, is like keeping a man on wheat bread solely; he will live for a time, but will finally sink under the experiment. In this case, the finer the flour the worse for the man. We have never had horses in better condition for labor, than when we have fed them with cut wheat straw, wet up in a tub with Indian corn meal. It is evident there must be some proportion between the bulk and the nutritive power of food, and grain alone gives too much nutritive matter for the bulk. Oats, perhaps, approach nearer the standard than any other grain; but the use of these alone, will in a long run be found unadvisable.

One of the most carefully conducted experiments we have noticed, was the one made by Mr. Brotherton, near Liverpool; and he came to the conclusion that horses cannot be kept in a condition fit for work, if fed on grain alone. For nine years, Mr. Brotherton allowed eight horses, three Winchester bushels of oats and one of beans, but no hay or chaff. During this period he annually lost more or less horses, which he attributed to the quantity of grain being greater than the stomach could digest. This induced him to adopt feeding hay with his grain in the following proportion:—To eight horses he allowed one bushel of oats, one bushel of beans, and three bushels of cut hay, straw or clover; and he found them better able to do their work than before, and for several years after adopting the plan, lost but one horse from disease. Farmers, we are confident, have much to learn on the subject of feeding animals, and the health and good condition of the latter will, we doubt not, be found compatible with greater degrees of economy than has generally been practiced.

LETTER FROM FLORIDA.

Extract of a letter from Geo. F. Baltzell, Esq. to the Editors of the Cultivator, dated Apalachicola, April 18, 1843:

"A few days since, I visited an old friend who has located in the vicinity of my residence, for the purpose of gaining the advantages of a limited dairy, and raising vegetables for the market. The mildness of the climate, and the abundant and rich natural meadow on the low piney wastes, render it unnecessary for the farmer to house his provender or deal out scanty supplies daily; neither are expensive houses for the accommodation of the cows required. His labors are mainly directed to the culture of potatoes, melons, cucumbers, peas, beans, etc. My attention was arrested by some new things, which, however, may be familiar to you. Among others, a cabbage, the growth of two years, of the common variety, standing some six feet high, maturing its seed, between the leaves of which a wren had formed her nest. The date, pecan and tamarind, were growing finely, with little prospect, however, of arriving at maturity. He had found in the neighboring forest, an apple tree five or six years old, from which he cut branches apparently of two years growth, stuck them down equi-distant from each other, without any preparation of soil or extraordinary care, and in a short time they put forth their foilage without a single failure. He showed me a peach tree that appeared to be of four years growth, with peaches of this season as large as a nutmeg, which he had transplanted without interrupting the growth of the tree or its fruit.

"In consequence of the spring being cold and wet, the planters have been retarded in their operations at least a month, and many have just planted. Should an early frost ensue, the coming crop of the staple will be very limited. The low price of cotton and the scarcity of money, compels the planter to turn his attention to his farm, and endeavor to make upon it that which a few years since was purchased from his neighbor. They are generally men of intelligence and will seek for the best information. Heretofore no attention has been paid to manures, rotation of crops, or to any of the various improvements, old or new; the planter looking solely to the result, without regard to the husbanding his resources of any kind. The system adopted tended to impoverish and render waste the land, while it should have been his pride to cultivate, embellish and improve."

SIR JOHN SINCLAIR'S OPINION ON CATTLE.

The late Sir John Sinclair, it is well known, was one of the most distinguished Agriculturists of Europe, and few men's opinions can be entitled to more respect or confidence. We recently found in an old Quebec paper, a letter from him, in answer to some inquiries made by the Lower Canada Agricultural Society, on the subject of cattle. We have thought that a condensed view of his replies to the several questions might interest the readers of the Cultivator.

Query 1. "What in your opinion is the most celebrated bered of milch cows in Great Britain?"

To this Sir John answers, that "the improved dairy cows in the western counties of Scotland are the most celebrated and valuable breed of milch cows in Great Britain or any other part of Europe." ****** "The Durham or Teeswater breed, are superior as dairy cows to any other breed in England, and if they were as well fed and treated as the Scots dairy stock, would equal them in beauty and good qualities." He thinks the excellence of the Dutch cows is more depending on the richness of their pastures than on the breed, and says they have strong bones, coarse shapes, and do not yield so much milk in proportion to the size as the dairy cows in the west of Scotland.

Query 2. "What quantity of milk will a cow of such a breed give per day?"

To this query Sir John, after giving some of the causes which will make cows of the same breed give different quantities of milk, says:—"But without going into particulars, or mentioning extraordinary returns that some cows have made, it may be stated with entire confidence, that the fair average annual returns of milk given by thousands of the best Ayrshire dairy cows, when they are in good condition and well fed, and when they drop their calves about the end of the month of April, will be nearly as under:

First	50	days,	24	quarts per day,	1200
Second	50	"	20	" "	1000
Third	50	"	14	" "	700
Fourth	50	"	8	" "	400
Fifth	50	"	8	" "	400
Sixth	50	"	6	" "	300
					4000

It is equally certain that 14 or 15 quarts of that milk will generally yield 22 or 23 ounces of butter; and that from 110 to 120 quarts of that milk with its cream will yield 24 lbs. of full milk cheese."

Query 3. "What would be the price of a cow of such a breed, from two to three years old, and in calf?"

In answer Sir John states that the price of cows is very much depending on circumstances, such as scarcity of fodder, dry summer, time of the year, &c. Thus cows are 20 or 30 per cent. cheaper in Autumn than in May or June. "Some milch cows of the best sort and in good condition, have been sold as high as £25; but young cows, from two to three years old, and in calf, may be procured of the best sort at from £10 to £12 each, or still cheaper."

Query 4. "What would be the price of a bull of the same breed from 18 months to two years old?"

Sir John thinks no bull should be selected under two years old, as calves frequently alter their character and shape much in coming to maturity, and of consequence it is impossible to tell what a bull will be under the age of two years. "The dairy bulls that have most of the feminine aspect, are preferred to those who are more masculine. A dairy bull of good shape and qualities may be procured for about £14 or £15."

Query 5. "What is the most celebrated breed of cows in Great Britain or elsewhere for the production of butter?"

"The quantity of butter yielded by cows, depends more on the food given them than on any peculiarity of the breed of cattle; and the quality of the butter is greatly influenced by the manner of feeding, and still more so, by the manner in which the butter is manufactured." Cows fed on clean sweet pastures, give more and richer milk, and make sweeter butter than those fed on roots, cabbages, &c. The Dutch butter is justly celebrated, but this, according to Sir John, is not owing to the breed of cows, but to the richness and sweetness of their pastures; and above all things to the great attention paid to cleanliness in every department of the Holland dairies, is the excellence of their butter to be ascribed.

Query 6. "What quantity of butter would a cow of such breed produce per week?"

In answering this query, Sir John gives some examples of celebrated cows, among which is the "Crams" cow, the yield of which, as compared with some American cows, is given at page 150 of the 7th vol. of the Cultivator. None of the instances given of great products of butter, are equal to many that may be selected from the agricultural reports and papers of this country; 19 lbs. per week being the highest mark reached by him.

From these statements of Sir John, it is clear we have in this country the materials of as good dairies as are to be found in the world; cows of as good breeds, which will yield as much and as rich milk, and that nothing but skill and care in the dairymen is wanting to produce articles equal to those of any part of the globe.

DEATH OF THE HON. JAMES M. GARNETT.

It was with sentiments of profound regret, that we saw in the Richmond and other Virginia journals, the announcement of the death of this eminent man; regret that the State of which he was one of her noblest sons, should lose his services; regret that agriculture, to the advancement of which he was so ardently devoted, should be deprived of his powerful example and aid; and regret that the pages of the Cultivator, which he has so long made the medium of his communication with the public, must henceforth want those papers of his which never failed to interest and instruct. Mr. GARNETT was a farmer from choice, because he loved the occupation, and saw in that and in its results the true source of continued prosperity to the nation. From his professional and civil engagements, he turned with delight to agriculture; his circumstances co-operated with his inclination, and enabled him to devote more time to the pursuit, than usually falls to the lot of such men. With a mere theoretical knowledge of the details of farming he was never content; but he carried into practice those rules which carefully conducted experiments, made under his own eye, proved best adapted to advance the interests of the planter and farmer. Through his exertions the Fredericksburg Agricultural Society was early instituted, and for more than twenty years he remained at its head, its ever zealous and efficient president. The influence of that society on the agriculture of that region, and the benefit of its example in the formation of kindred societies, will with difficulty be estimated. A collection of the addresses which he delivered before the annual meetings of the society, would form an interesting record of the progress of agriculture, of facts and experiments, for in these addresses he made a point of detailing the results of his experience during the year that had passed. Other districts and States were anxious to avail themselves of his instructive efforts, and like our own Judge Buel, whom in many respects he greatly resembled, he was frequently called to deliver addresses, or aid in the formation of societies at places remote from his home. When the National Agricultural Society was instituted, Mr. Garnett was called to the honorable and responsible situation of president, an office he filled at the time of his death. To the welfare of that society, and the promotion of its objects, his time and efforts were unceasingly devoted. The Cultivator was the favorite agricultural journal of Judge Garnett, and through its columns most of his valuable communications have been made to the public. A reference to the past volumes will show the extent of his labors in this field, and their value. We may now state that the series of papers signed 'COMMENTATOR,' so long continued, so ably written, embracing so many topics, and always so interesting, were from his pen. If we have spoken of Judge Garnett principally as an agriculturist, it is because the topic was most suitable for this place, not because we were insensible to his moral and intellectual worth, to his influence as a citizen, a statesman, and a man.

PROSPECTS OF THE COMING WHEAT CROP, &c.

In some remarks on this subject in our last number, the opinion was expressed that damage would be found to have been sustained by the wheat crop, from the depth and weight of the snow, but to what extent, it was then too early to determine. Since then we have received notices from all parts of the country, and we are sorrry to say that a comparison of these reports renders it very certain that the loss sustained on the whole, will be greater than was at first apprehended. From Ohio we learn that in the south part of the State, or on the river slope, appearances are very unfavorable; while in the lake counties, on the contrary, the fields exhibited a good set of plants generally, and the prospect was encouraging. In western New-York many fields have been plowed up, and from many others a slender crop must be expected. Since the ground was cleared of snow, we have had no frosts to injure the plants in the least, and the deficiencies must be attributed to the effects of the snow.

Notwithstanding the lateness of the season at which farmers were able to commence their spring seeding, such has been the fineness of the weather, that farmers found their work at the middle of the past month fully as advanced as usual, and appearances, if good getting in may be considered an indication, are fair for favorable crops.

Fruits of all kinds promise abundantly; but unless speedy measures are taken to check the ravages of the caterpillar, which was so destructive last year, and has already appeared in immense numbers, apples will be seriously injured. Instead of adopting any of the round-about methods of destroying this caterpillar, let the orchardist do as did a farmer of our acquaintance last year, and we will guarantee them an exemption from this scourge. Mounted on his ladder, at the first appearance of the enemy, he visited each nest or web, and with his hands effectually crushed every one of their inhabitants at a grasp. The consequence was, that while his neighbors' orchards looked as though a fire had passed over them, destitute of both foliage and fruit, his was loaded with both. The caterpillar in the orchard, like the thistle in the field, is one of those evils much more readily corrected if attacked in the outset, than when it has been allowed time to establish itself; and the destruction of them the present year, usually secures an exemption for the next.

CONSUMPTION OF FOOD IN CITIES.

Few men who have not directed their attention to topics of that nature, can readily conceive the amount of food consumed in large cities, and the consequent demand they create for agricultural products. Smithfield is the great cattle market of London, and the record there shows the number sold in any given year. Thus in the five years from 1730 to 1735, the number of cattle sold was 93,655; and of sheep 568,060; or about 20,000 of the first and 100,000 of the last annually. In 1840 the consumption had increased to 190,300 cattle, and 1,500,-250 sheep. The same year the number of bushels of barley, or rather malt, used for brewing, was 5,800,000; and it required 4,850,000 bushels of wheat and 620,000 barrels of flour to supply the city with bread. Paris, in proportion to its population, uses less meat and more bread than London. Americans are famed for their use of meat; and the following table, apparently compiled with considerable care for the True Sun, will show the value of the agricultural products codsumed annually in New-York city.

Fresh beef,	$1,470,000
" veal,	350,000
" mutton,	300,000
" pork,	600,000
" poultry, game, eggs,	800,000
Salted beef, pork, hams, &c.,	1,200,000
Vegetables and fruit,	1,200,000
Milk,	730,000
Butter, cheese, and lard,	1,500,000
Flour, meal, and other bread stuffs,	3,000,000
Hay and oats,	750,000
Fuel (wood and coal) exclusive of steamboat fuel,	2,500,000
Other articles, exclusive of building materials,	500,000
	$14,900,000

THINGS TO BE REMEMBERED.

Horses should never be put to severe work on a full stomach. More horses are hurt by hard driving after a full feed, than by a full feed after hard driving.

If the farmer wishes to have his pork barrel and meal chest hold out, let him look well to his kitchen garden. Plenty of vegetables conduce not more to health than to profit.

In laying in a stock of winter fodder for animals, let it not be forgotten that a little too much is just enough. Starving animals at any time is miserable policy.

As you treat your land so it will treat you. Feed it with manures liberally, and it will yield you bread bountifully.

Avoid debt as you would the leprosy. If you are ever tempted to purchase on credit, put it off for three days. You need time for reflection.

Never beg fruit, or anything else you can produce by the expenditure of a little time or labor. It is as reasonable to expect a man to give away the products of his wheat field, as of his orchard or fruit garden.

If you keep your sheep and cattle in your meadows until June, don't complain next winter because you are compelled to purchase hay for your stock.

The man who uses good seed, has a good soil, and works it in good season, rarely fails of having a good crop to reward his toil.

Never forfeit your word. The saying in truth, of any farmer, "his word is as good as his bond," is worth more to him than the interest of $10,000 annually.

CATTLE AND SHEEP OF GREAT BRITAIN.

We find the following in a late English journal, and give it for the purpose of comparing it with some of our own statistics and prices:

"The total number of horned cattle in the United Kingdom, is estimated at 7,000,000, and the total number of sheep at 32,000,000. Valuing the first, per head, at £10, and the last at 25s., both together will give a total value of £110,000,000."

In the U. States, according to the census of 1839, the number of horned cattle was 15,000,000, and the number of sheep 20,000,000. But the difference in the estimated value is the most striking point in the comparison. There, the average value is put at about $45 for the cattle, and about $6 for the sheep. Here, an average price of $12 for the cattle, and $1,50 for the sheep, must be considered a liberal estimate. This fact shows why the prices of meat are so high in Great Britain, and proves that we ought to be able to furnish them a supply of beef at remunerating prices. We think it clear that in the present position of trade, tariffs, and prices, a fair export trade in beef and pork to England, may be expected.

Answers to Inquiries, &c

CORN SUGAR—PALMA CHRISTI.

"MESSRS. GAYLORD & TUCKER—I would be glad to see in your columns the process of grinding the corn stalk, expressing the juice, and boiling and graining the sugar. Also the modus operandi of husking or freeing from its hard envelope the seed of the palma christi, or castor oil plant. I have no doubt the experiments of Dr. Cloud will have a good influence on the culture of cotton. E. TAYLOR,"

Mt. Jefferson, Ala. 1843."

This note was written previous to our April No. reaching Mr. T. In that he will find full directions for the making of sugar from corn. With the best processes of making oil from the palma christi we are unacquainted. In France, where oil of a superior quality is made, the fresh seeds are bruised and then put into a cold press; (some persons improperly heat the plates of the press.) The oil so extracted is allowed to stand some time to separate from its impurities, or is filtered. The produce in oil is about equal to one-third of the quantity of seeds. We should be pleased to receive from some of our Illinois friends engaged in the culture of the palma christi and the making of oil, a full account of the process.

SOUTH DOWN SHEEP.

R. BURR, Esq., of Rice Grove, Canada, asks for some information with regard to the South Downs, their habits, constitution, price, and where they can be obtained genuine; and also for directions for coloring the most common colors wanted by farmers, particularly red and yellow, for which see last page of this paper.

Experience with the South Down breed of sheep proves that they are a very valuable breed, well adapted to our country and climate, producing fine mutton, and if the wool is inferior to that of the Merino or Saxon, it is of a good quality, and is placed in fineness next to those we have named. It is a very hardy animal, thriving well on short, upland or hilly pastures, and fattening readily on turneps, or better pastures. Some of the finest mutton ever exhibited in this city was from the South Down flock of Mr. MCINTYRE. South Downs of pure blood may be obtained in the vicinity of this place, and selections made from several fine flocks; they may also be had of Mr. Roteh, Butternuts, Otsego co., who has some of the finest in the country; and doubtless from other breeders of this valuable animal. The prices will range from $15 to $25 depending on the kind and quality of the sheep.

BEST GUIDE TO FARMING.

"MESSRS. EDITORS—Will you be kind enough to state in the next number of the Cultivator, what is the best and most practical work yet published on farming, and the best adapted to the wants of a young beginner.

"W. S. CHAPMAN.

"Cincinnati, Ohio."

One of the best works, in all respects, is the "British Husbandry," in 2 vols. octavo, published in London. Mr. Stephens' "Book of the Farm," now issuing at Edinburgh, in numbers, promises to be very useful. But we can recommend as the best, most practical, and therefore best adapted work on agriculture, to any beginner, the series of "THE CULTIVATOR;" and these will also be found cheaper than any other. The volumes of the Cultivator, nine of which have been completed, will be found to embrace the most full, minute, and comprehensive details in all the various departments of farming, and all the products of agriculture. As mere manuals for the beginner, the "Farmer's Companion," by the late Judge Buel, or the two volumes on "American Husbandry," from the press of the Harpers, are compilations of value.

SMALL STONES ON LAND.

"MESSRS. EDITORS—I find I differ from some of my farming friends with regard to the propriety of entirely freeing the land we cultivate from all the stones, large and small, to be found upon it. I have an impression that too close a removal would be injurious rather than beneficial. Will you be so kind as to give us your opinion on the subject. A YOUNG FARMER."

Something we think would be depending on the nature of the soil, and something perhaps on the kind of stones most common in the soil. On a very light gravelly or friable soil, it would be scarcely possible to separate the stones too closely; for greater compactness is what is wanted on such lands. On the contrary, if the soil is inclining to be cold and dense, a too close removal of the small stones would be decidedly injurious. These opinions do not rest on mere theory alone. Mr. Marshall, in his works on agriculture, mentions an instance in which a turnpike company, wishing to obtain a quantity of stone, purchased of a farmer, all that could be found to the depth of 18 inches in a certain field. The field abounded in fine stone, and the farmer congratulated himself on the final removal of this formidable obstruction to its culture. The whole earth, to the required depth, was passed through a sieve or riddle, which separated every thing larger than an ounce ball. The appearance of the field was greatly improved by the operation; but the farmer found that its capacity for cropping was

almost destroyed, and would have been heartily glad to have returned the money received, could the stones removed been replaced. A friend has informed us of a somewhat similar instance in this state. A gentleman near the Cayuga bridge, had a field of ten acres of excelledt soil, producing fine crops of wheat, but rendered unsightly by the abundance of broken limestone, large and small, with which it was covered. To free it from this nuisance, as he considered it, he had all the large or suitable sized ones removed and made into walls, and those unfit for use removed, and used for filling up a swamp in another place. He is now convinced he erred greatly in removing them too closely; the land is more dense and compact, and in spite of the most careful cultivation, it does not produce wheat near as well as formerly, or as well as similar land from which the stones have not been removed. All stones have an influence more or less on the soil; and the limestone, in addition to the effects of common stone, is constantly undergoing a decomposition which exerts a powerful action in modifying the character of a soil.

THE CUT WORM.

MESSRS. GAYLORD & TUCKER—You will greatly oblige subscribers to your paper on this Island, and doubtless many others in other parts of the country, by giving in your next number an effectual remedy for the grub worm. Last year it destroyed many crops of corn, and it has again made its appearance, promising to be as destructive as ever. If there is an effectual remedy, an immediate knowledge of it would be very desirable.

Staten Island, May, 1843. V.

There are two kinds of depredators known by the name of the grub worm; one the larvæ of the May beetle, which is white, with a red head, and is usually called the white grub. The other is the larvæ of a moth, is of a black color, and we presume is the one referred to by our correspondent. For the white grub we know no remedy that can be relied upon as effectual; for the black grub or cut worm we are aware of but one, and that may be found well described on page 206, of the fifth vol. of the Cultivator. That we consider infallible, having tested it frequently in the garden and the field. It consists in going over the garden or the field, and wherever a cut stalk shows his presence, hunting up the grub, and killing him at once. He is readily found, just under the surface, close by the spot where he has been feeding. It is true the remedy requires some time and patience; but you have the satisfaction of knowing that when you have cleared your field or garden effectually once, the work will not need repetition for several years.

ABORTION IN COWS.

WE have, within a few months, heard many complaints from farmers on the subject of abortion, or the slinking of calves by the cow, and as the evil may be an increasing one, it may serve a good purpose to direct attention to the nature, causes, and prevention of the difficulty. Of all the domestic animals, the cow is most subject to abortion, and the loss of the calf may occur at any time between the third and the eighth month. In most cases there are some indications of the coming abortion; the cow is dull, off her feed, the milk dries up, the belly loses its rotundity, and the animal exhibits other symptoms of illness. One of the most unfailing indications is the issuing from the vagina of a yellowish or red glairy fluid, and this appearance usually immediately precedes abortion. Sometimes the labor is protracted and dangerous; at others it is attended with no alarming symptoms.

The causes of abortion are involved in much obscurity. It is more frequent in particular districts than in others; and in some seasons seems to assume the form of an epidemic. At such times all, or nearly all, the cows in a dairy will lose their calves, in spite of every effort to prevent it, and the loss from this cause is frequently a serious one. It sometimes appears in the herd of the breeder, and for a time subjects him to heavy losses. By some it is considered contagious; but the rapidity with which the tendency to abortion spreads in a dairy, can, we think, be explained on other grounds. Among all the cows of a dairy, or all those of the same farm, there must exist a tendency to the same diseases, as all are exposed to the same cause, whether that cause be to produce murrain, hoof-ail or abortion. Every dairyman is aware of the effect which the smelling of blood or other offensive matters will produce among cows, and to the sympathetic irritation which the smell of an aborted fœtus will occasion, may doubtless be traced the rapidity with which abortion will spread through a dairy of pregnant cows, when the calf of one is unfortunately lost. But this sympathetic irritation will hardly account for those cases that occur on farms, at considerable intervals of time, or where but few cows are kept.

Mr. Lindsay attributes abortion to the use of improper food, or a too small quantity; and gives several instances in which it arose from feeding cows with bad hay. In one of these cases a farmer had ten cows out of twenty-two, that lost their calves by abortion.

Chabert, a French veterinarian of great reputation, mentions a case in which abortion was prevalent on the farm of a dairyman for many years, in spite of every precaution and great expense, but who effectually checked the destructive habit, by changing his entire stock, at the suggestion of Mr. C.

Mr. White, an English veterinarian, says the most common cause of abortion is improper food in the winter and spring, added to the impure water which many herds are compelled to drink; and he mentions an instance in which the disease was eradicated from a farm on which it had been long prevalent and fatal, by the substitution of pure well water for that of the ponds from which the cows had before drank. Another cause, according to Mr. W., is a vitiated state of the digestive organs. A farmer at Charentin, near Paris, kept his cows during a very dry summer, in a wet meadow on the banks of the Seine, which frequently flooded it, and the cows were generally up to their knees in mud, feeding on the coarse grass, crowfoot, rushes, &c. As a natural consequence, out of twenty-eight cows, sixteen lost their calves at different periods of gestation. Mr. White is confident that keeping cows on food deficient in nutrition and difficult of digestion, is one of the principal causes that induce abortion.

M. Cruzel, in the French Vet. Journal, gives an account of several cases in which abortion could be clearly traced to high feeding. This high condition keeps them in a continual state of excitement; inflammation of the uterus frequently occurs under these circumstances, and abortion is the natural result. In one case, where M. Cruzel was called professionally, he could discover no cause for the abortions, other than the unnecessarily fine condition of the animals, and he attributed them at once to this cause. He ordered the quantity of their food to be reduced—he bled all the remaining cows—the farmer was careful that nutriment should not be so dangerously wasted, and abortion ceased on the farm. Mr. Wedge in his agricultural survey of Cheshire, remarks "that slinking occurs generally in wet seasons, or when the cattle are in a very high condition, and frequently continues for two or three years together."

Hoar frost, or allowing cows to feed on grass thickly covered with it, is considered by many as the cause of abortion. In Switzerland, the beginning of hoar frosts is the signal for the appearance of abortion. Coarse, rank herbage, or acrid plants, such as grow on low wet meadows, are also considered productive of abortion. We have named these various causes, to show that it is difficult if not impossible to fix on any definite one, and the probability that it may arise from numerous sources affecting the sympathies or the general health of the animal. We are inclined to the belief that it oftener arises from the smell of blood, or of offensive putrid matters, especially if such odors resemble those arising from abortion or a decomposing fœtus, than from any other cause. Dr. Rudge states that a dairyman of Arlingham kept twenty cows in an enclosure, close to which was a dog-kennel. In consequence, as was supposed of these cows frequently having horses killed and skinned before them, and the smell of the blood and other matters, eight lost their calves; the remainder were immediately removed to a distant pasture and did well.

Little can be done usually to prevent abortion. When symptoms of it are discovered, liberal bleeding may be considered as effectually to check the tendency as any other course. Where abortion of a cow takes place, especially among a herd of cows, the greatest care should be taken at once to separate her from the others, and if the parts of the cow are smeared with tar or other stinking oils, the effect will be good. The calf should be removed and buried where the cows will not approach, and every thing that can retain any of the peculiar effluvia, should be placed beyond the reach or contact of the other cows. Fumigations of the cow buildings by means of tar, sulphur, feathers, &c. &c. have been frequently resorted to, but the effect has not been so favorable as was anticipated. Indeed some have asserted that they have never known an instance where fumigation was attended with the slightest success. Change of location; a transfer to high and airy pastures; a suitable supply of good food and pure water; and the perfect removal of all irritating substances or smells, are the things most to be relied upon to break up this destructive tendency.

We have been the more induced to refer to this subject of abortion in cows, now, since in addition to the cases to which we alluded in the beginning of this paper, some have fallen under our notice in this immediate vicinity, which, from the circumstances of the case, invest the subject with an unusual degree of importance. Mr. Prentice of Mount Hope, near this city, well known as the owner of one of the finest herds of Short Horns in the United States, has within a few months lost several calves, and one from his celebrated cow Matilda, from abortion. As usual, this result has been attributed to various causes, but perhaps more to high feeding than any other, by those who are unacquainted with the facts of the case, which are these, and which we think will show the loss of the calves must be attributed to some other cause than high keeping.

In the winter of 1841–2, being short of hay, Mr. P. fed his stock more or less meal, till near spring, when oil cake becoming the cheapest, he substituted this for the meal; and this was continued through the spring; but in no case did any animal receive more than two quarts per day, and only a few of the largest cows and deepest milkers had that quantity. Since that time, they have had nothing but pasture, hay, and straw. His first calf lost, was from a cow imported in October, 1841. She was bulled in England, and should have calved in January, 1842, but lost her calf some six weeks previous to that time, as was supposed, from injuries on the voyage. Since that time several cases of abortion have taken place among his other cows, one at four months, one at five months, and Matilda at seven and a half months. The three last abortions, were heifers for the first time in calf; and neither of these three had tasted meal, grain or cake, since some time previous to their taking the bull; their keeping was ordinary pasture in the summer, and hay and straw in the winter, and their condition, though good, was by no means high. To what cause shall we attribute the appearance of abortion in this herd?—to the sympathetic influences described by Youatt, and alluded to above, or to some local cause, acting separately or conjointly with these influences? From what we know of the facts in the case, we believe that both sympathetic and local causes have been operative, if indeed the local cause is not purely sympathetic in its action.

Mr. Prentice uses annually large quantities of refuse bits of furs from the Albany manufactories, for enriching his grounds. This refuse matter is made into compost, large heaps of which may be seen at all times in his yards, and which during the process of decomposition, will at times emit a strong and offensive animal smell. This compost is spread over all his grounds, so that these pieces of decaying skins have been constantly within the smell of his cows while pasturing; and while undecomposed on his meadows, have doubtless been raked up with his hay.

Would not this continual putrid animal effluviæ, produce on cows the effect attributed by Youatt and others to the odor of the putrid fœtus; and by Dr. Rudge to the exhibition and smell of horse flesh and putrid matters at the dog-kennel? We think it would; and that safety for Mr. P. lies in removing his stock at once, so that the destructive habits they are forming may be at once broken up. The destruction of such a herd of Short Horns as Mr. Prentice, at so much expense, has got together, might be considered not more as an individual than a national calamity, and we trust that measures will be speedily taken to arrest successfully this tendency.

USE OF POUDRETTE.

THE suggestion contained in the annexed extract of a letter from Long Island, respecting the application of poudrette to corn at the first and second hoeings, may be of service to many of our readers who are so situated as to enable them to obtain it with facility from New-York. It will be seen by reference to our advertisements, that it can now be procured without delay.

Extract of a letter to the editors, dated May 23:—"In relation to the use of poudrette, I desire to say, that several years experience has shown our Long Island farmers that it may be used to great advantage as a top-dressing for corn at the first and even at the second hoeing, if applied properly. At the rate of one gill to the hill, spread on broadcast before the cultivator is put in at the first or even at the second hoeing, has been found of great advantage, and it seems to me that it may be found exceedingly convenient this backward season to bring forward corn which needs encouragement. It has been found, in years past, on Long Island, very useful thus applied; and it seems now a proper time to call attention to the subject, that those, if any, who may desire to make the experiment, may have the opportunity."

Extract of a letter written by Timothy C. Smith, Esq., of Smithtown, L. I., dated April 25, 1843:—"In reply to your inquiry as to my use of poudrette, I can simply state that I have used it mainly for corn in the hill, at the rate of 20 bushels to the acre, and consider it peculiarly adapted to that crop, both in the economy of its application and in bringing the crop to maturity. I consider it superior to any manure I have ever used; answering the same purpose, and having the same desirable effect on all soils to which that crop is adapted."

FOREIGN NOTICES.

THE WHITE CARROT.—Though this carrot has been common in Flanders and Germany for two centuries, it was not introduced into England till within the last four years. It is highly prized, and its cultivation is rapidly extending. It has been stated to give 30 tons to the acre, each ton selling in some neighborhoods at about $9,00, or double the value of Swedish turneps.

GLOBE MANGOLD WURTZEL.—Mr. Pusey states that the cultivation of this variety of beet is increasing; and that at Woburn, he was assured by the Duke of Bedford's bailiff, that by his highest farming he could grow 22 tons of Swedes, 30 tons of turneps, 36 tons of long mangold, and no less than 40 tons of globe mangold.

WORSE THAN FATTING HOGS ON MUTTON.—Mr. Hume, member of Parliament, is said to have stated at a late meeting of the Anti-Corn law league, that Mr. Everett, our Minister at St. James, had asserted at a public meeting in September last, "that bacon, which would bring 6d. per lb. (12 cents,) in England, was *actually used as fuel for steamboats in the United States, having no other way of getting rid of the superfluity!*"

SHORT HORNS AND AYRSHIRES.—In an article on the "Progress of Agricultural knowledge during the last four years," by Mr. Pusey, ex-president of the Royal Ag. Society, "it is said, indeed, that better milkers may be found than even the Short Horns; and this may be the case; but milk alone cannot be made the test of cattle even for a dairy farm, because the cows which are necessarily discarded each year, for age or barrenness, ought to be suited for fatting. In cattle, too, a Scotch breed, the Ayrshire, may stand by the side of our own, as it appears to unite in a high degree the two requisites of milking and grazing, both upon moderate land; but whether it be suited to our rich southern meadows must be doubtful."

NEW-YORK STATE AGRICULTURAL SOCIETY.

At the regular monthly meeting of the Executive Committee of the New-York State Agricultural Society for May—Judge VAN BERGEN in the chair—the following letter, addressed to Vice President LELAND, was read:

DEAR SIR—I have the pleasure to inform you that at a meeting of the Albany Institute, held April 14, 1843, that society voted to the State Agricultural Society the following number of copies of the Transactions of the Society for the Promotion of Arts, Agriculture, &c.

Vol. 1st,..... in boards, 150 copies.
Vol. 2d,..... " 13 "
Vol. 3d,..... " 80 "
Vol. 4th, Part 2, in sheets, 100 "

I have not yet been able to ascertain whether there are perfect copies of Vol. 4, Part 1. They are at all events in sheets.

I remain, very respectfully, yours,
***Albany, April* 17, 1843. T. ROMEYN BECK.**

The thanks of the Society were voted to the Albany Institute, for the donation of books mentioned in Dr. Beck's letter. These volumes embrace the Transactions of the first Agricultural Society formed in this State. It was organized in 1791. Chancellor Livingston was appointed its first president, and continued in that station till the time of his death in 1813. Among the contributors to the volumes, are Chancellor Livingston; Dr. Mitchell, Gen. De Witt, Chancellor Kent, Noah Webster, Dr. T. R. Beck, E. C. Genet, H. G. Spafford, and a great number of others.

The thanks of the Society were also voted to A. Walsh, Esq., for a copy of the 3d vol. of the Memoirs of the Board of Agriculture of this State—to John Hannam, Esq., North Deighton, England, for a copy of his Prize Essay on the "Application of Rape Dust and other hand tillages"—to Carey & Hart, Philadelphia, for the first part of their reprint of the Farmer's Encyclopedia.

Messrs. Prentice, Tucker and M'Intyre were appointed a committee to see to the furnishing and care of the room appropriated to the Society by the Legislature.

On motion, it was resolved that the regular meeting of the Executive Committee for July be held at the Eagle Tavern, *Rochester*, on Wednesday, the 12th, at 9 o'clock, A. M., for the purpose of appointing the Judges for the next Fair, and transacting any other business in relation to the Fair which may be found necessary.

LETTER FROM MISSISSIPPI.

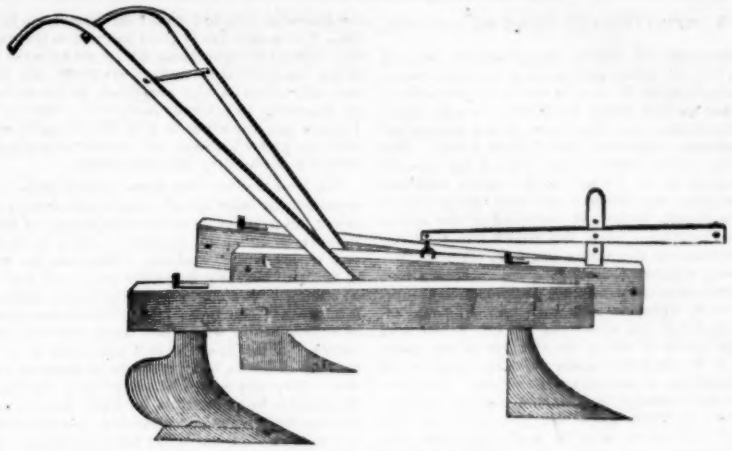
WE make the following extract from a letter from JOHN J. M'CAUGHAN, Esq., to the editors of the Cultivator. We hope some of our correspondents will be able to furnish him with the information he desires, on the improvement and value of reclaimed salt marshes. The Tussuck grass, about which he inquires, has not probably been introduced into this country. The letter is dated Mississippi City, Hancock county, April 5, and the writer says:

"Our country is remarkably poor, all along the Mexican Gulf Coast, from Lake Pontchartrain to Mobile Bay—'Sandy pine woodland,' which makes it the more necessary to collect all the experience of others similarly situated in other regions, for we have none who preceded us here who have tried to combine the various advantages of our country in an agricultural point of view. So far as any effort has been made with the manures (which we have at hand and in great abundance,) on our poor land, such as mud from salt marshes, also mud or decomposed vegetable matter in the bottoms of slow running branches, we have all been surprised at the increased products of our lands. Our convenience to the New-Orleans and Mobile markets, causes a small crop here to be of as much value ordinarily, as a large crop in a country not possessing these advantages, and I think in a few years we shall supply these markets with most of the fruits, (such as peaches, figs, grapes, quinces, pomegranates, oranges, lemons, plums, mulberrys, apricots, nectarines, jujubes, walnuts, pecans, &c. &c.,) vegetables, melons, sweet potatoes, pindars—lambs, kids, pigs, fowls, &c. &c., all of which grow finely in this poor country, and we require nothing but a little increased industry, intelligence and economy to enable us to work all these sources of immense wealth to our long neglected country. But the spirit now manifesting itself in this country, will soon bring about these desirable results.

We have a good deal of salt marsh on our bays and tide water bayous entirely neglected, because none of us know what would be the result of an experiment on them. I have lately surveyed one of 500 acres, which can be enclosed with 700 rods of *levy*, six feet high, which will protect it in the severest gales ever known in these waters. It appears to be mostly formed of decomposed vegetable matter. The ordinary high tide covers it about three inches. It is thickly set with a long broad leaf grass, and a kind of wire grass. The embanking and ditching of this 500 acres would not cost as much as the clearing as much heavy timbered land. Any information which would enable us to calculate with certainty the result of an improvement of this kind, would be of great advantage to the country.

I see in your January no. an account of the 'Tussuck grass,' discovered by Capt. Ross on the Falkland Islands. Can you tell us where the seed or roots can be procured? I think it would be of the greatest importance to us here. We have the 'Maratime district' and the 'rank wet peat bog with the sea spray over it.' We want grasses for hay. We have a good grass for grazing pastures, which is green here about nine months in the year. It is similar to the Bermuda. I got it from the south side of Cuba, where it was spread over the whole country; it grows here on the poorest sand ridges into a perfect *mat*, and bears a great deal of grazing.

Our poor lands will grow from 1000 to 1500 lbs. rice per acre, and I think will double that quantity with proper manuring and cultivation. But the great advantage of our country is its universal health. On that subject I fancy we have the advantage of any other place on earth. Our country is filled with the purest free stone water, which, with our pure sea breeze, abundance of fine fish and oysters, make, to my mind, ample atonement for our poor soil."



WOOD'S PATENT PLOW CULTIVATOR.—(Fig. 44.)

THE above is a figure of Wood's Patent Plow Cultivator, which we are assured "has been thoroughly tried, and been found to give better satisfaction than any Corn Cultivator" previously used. It is manufactured by R. B. DOXTATER, Adams, Jeff. co., N. Y., and may be obtained in this city at the seedstore of Wm. Thorburn—of Starbuck & Sons, Troy, E. Gifford, Hudson—Freeborn & Co., Ag. Warerooms, 183 Front st., New-York, and also at Utica, Little Falls, &c. &c.—Price $6.00.

STATE AGRICULTURAL FAIR AT ROCHESTER.

IN our last number we gave place to the decision of the Executive Committee of the State Society, fixing the next annual Cattle Show and Fair at Rochester, and to the list of premiums which will be there awarded. The number, variety, and amount of the premiums offered, in almost every department of agriculture and domestic industry, as well as mechanic arts, will arrest the attention of all interested in the progress of these great interests, and excite, we doubt not, a spirited competition. We are pleased to perceive that the selection of Rochester as the place of meeting, appears to have met with the general approbation of our friends at the west, and that spirited efforts have been already commenced, and the initiative arrangements entered into, to render the meeting worthy of New-York, and particularly of the west. The materials for a superior show are certainly most abundant; and with the advantages of the experience gained in the two preceding years, there can be nothing, save supineness and lack of energy, to prevent the show at Rochester equaling any that have yet taken place in this country.

Western New-York has many pure blooded animals that would do honor to any collection, and multitudes of grades of the Short Horns and Devons, as well as of native stock, that can with difficulty be equaled any where. We hope to see great numbers of all these on the ground, and not have the contest and comparisons so wholly confined to the imported or pure bloods. There are great advantages for the concentration of animals, agricultural products, &c. at Rochester, and we doubt not that we shall have the pleasure of witnessing a collection worthy of the public spirited farmers of western New-York. As that spirited association, the Mechanic's Institute of Rochester, as well as the Monroe Co. Ag. Society, will unite with the State Society in the Fair, we may reasonably expect a grand display of the products of the various mechanic arts, for which Rochester has become so celebrated, as well as of the more common products of the field and the orchard. The journals of the west will doubtless place this matter before their readers in such a way as to call out, in their full strength, the active and enterprising population of farmers, who have in so short a time converted such a region of wilderness into one of the most fruitful portions of the globe.

FRANCE BEFORE THE REVOLUTION.

WE have been much impressed in reading Alison's History of Europe, which the Harpers are now issuing, with the deplorable condition of the French Agriculturists previous to the Revolution which overturned temple and throne in that country. The only wonder an American experiences is, not that such a terrible revulsion took place, but that human nature could have endured such oppression and indignities so long. Things are bad enough now in some of the continental countries, but thank Heaven such oppression would now be met by prompt and overwhelming resistance. We condense from the first volume of the History some facts to substantiate our remarks.

The taxes, exclusively affecting agricultural labor, amounted to about 30 millions of dollars. So excessive was their burden, that Sir Arthur Young calculated that supposing the produce of an acre worth £3 2s. 7d., the proportion which went to the King was £1 18s. 4d.; to the landlord 18s, and to the farmer 5s. In other words, if the produce of the acre was divided into 12 parts, nearly 7½ went to the King, 3¼ to the proprietor, and one to the farmer. But this, though deplorably bad, was made still more intolerable by the game laws, which fettered the most important operations of agriculture. Game of the most destructive kind to the crops were permitted to go at large. Large herds of deer, and numbers of wild boars, to be hunted for the amusement of the great, ravaged the unenclosed fields. The damage done to four parishes in Monteeau, amounted from this cause to about 40,000 dollars. Numerous edicts existed which prohibited the cultivator from hoeing and weeding, lest the young partridges should be destroyed; from mowing hay lest the eggs should be destroyed; taking away the stubble lest the birds should be deprived of shelter; manuring with night soil lest the flavor of this game should be injured. The people were bound to grind their corn at the landlord's mill; press their grapes at his press; and bake their bread at his oven. The use of hand-mills was not free, and the proprietors had the power of selling to the laborers the right or privilege of pounding buckwheat or barley between two stones.

We repeat, it cannot be wondered at, that a spring so enormously loaded, should, when the pressure was suddenly removed, react far beyond any safe or manageable bounds. The enslaved, oppressed, trodden down peasant of France, had a long arrear of vengeance and bitter wrong to settle with the oppressor, and every line of the long account was summed up in blood.

CONVENTION OF BREEDERS.

(CIRCULAR.)

***Albany, June*, 1843.**

THE State Agricultural Society of New-York, desirous that some fixed principles should be established as the basis of excellence in the various descriptions of farm-stock, (without reference to their *relative* merits as breeds,) have appointed the undersigned a committee with instructions to call the particular attention of breeders throughout the States, to the importance of the subject, and to make the necessary arrangements for a Convention to be held at the Library Room of the American Institute, in the city of New-York, during its 16th annual Fair, in the month of Oct. next, the day to be hereafter noticed; at which breeders of stock and those interested in Agriculture, are most respectfully urged to give their attendance, with a view to a full and free discussion of those forms, qualities and properties which most conduce to intrinsic value; and also that the distinctive characteristics of each separate breed may be as closely defined as possible.

The Society believe that the decision of such a meeting will offer to the agriculturist the best information that can, at present, be elicited; and which, they trust, may be so satisfactory to the mind of every intelligent breeder, as to lead to greater uniformity of action and opinion, and *possibly* become a standard with them, by which to judge and be judged, in all cases of competition.

With these views of the subject, the committee hope you may deem it of sufficient importance to be present at the proposed Convention, and lend to its discussion the aid of your experience and talents.

The committee will be obliged by any suggestions, in the interim, you may consider of sufficient importance to be communicated to them in relation to this subject.

FRANCIS ROTCH, C. N. BEMENT,
E. P. PRENTICE, GEORGE VAIL,
LEWIS F. ALLEN.

☞ Editors of the several Agricultural papers in the United States, are requested to publish or notice the above.

DR. CLOUD'S IMPROVED CULTURE OF COTTON.

As was to be expected, and as indeed was desired, the papers of Dr. CLOUD, lately published in the Cultivator, on the method practiced by him in the culture of cotton, by which he has grown nearly 6,000 lbs. per acre, have elicited much attention and discussion in the papers of the cotton growing region of the United States. We should not recur to the subject here, were it not one of paramount interest to the country, and to great numbers of our subscribers; and were it not that the principle adopted by Dr. Cloud, is the one practiced at the north, by many in the culture of corn, and which has rendered crops of 100 bushels to the acre a common occurrence.

We have been somewhat amused at the different views presented of the subject, by different journals at the south. A writer in the S. Carolina Advocate and Register of Agriculture, says that the statement of Dr. Cloud will not be credited by 99 in 100 of the planters of that state; and that it will be supposed some mistake occurred in the weight of cotton, or measurement of land. The reason given for this disbelief, is, that the highest production yet reached is about 3,000 lbs. per acre; and the writer himself had never, with the best cultivation, exceeeded 2,300 pounds per acre. At a meeting of the Monticello Planter's Society, Mr. Means proposed a premium of a silver cup for any member making on old land, after the plan of Dr. Cloud, 3,000 or more lbs. of cotton per acre; and Col. Davis moved an amendment by inserting "*any plan*" instead of Dr. Cloud's plan, stating that he considered such a production in that plan impossible, and expressing doubts of *mistake* in the premises or the conclusions.

These opinions of cotton planters would have been entitled to more weight, certainly with us, had we not recollected that these men were also corn as well as cotton growers; and that only a short time since, a planter in the same journal that contains these remarks on Dr. Cloud's system of cotton culture, declared that neither Judge Buel, or any other man, ever saw 75 bushels of corn grown on an acre, and that any planter should be satisfied with a crop of 25 bushels per acre. Such assertions would seem to indicate that there are some districts, or at least some individuals, not yet attached to the party of progress, and still adhering with blind reverence to the practices of the past.

Our friends of the Nashville Agriculturist, a capital paper by the way, introduce a few remarks in explanation of the plan of Dr. Cloud, under the caption of "BIG HUMBUG;" and close by recommending to cotton planters to go on in the old fashion in the culture of that crop. We are much surprised to hear a paper, that in every thing else is an ardent and consistent friend of improvement, urging a continuance in the "old fashion" of cultivating the most important crop of the south, when it is admitted by all, that that fashion is one of pure skinning, and that the following it so long has nearly ruined the soil, if it has not the planters of the south. Cultivating large quantities of land, and raising but small crops, is a practice rapidly going out of fashion among good planters and farmers; and tilling small quantities of land, well, and raising corresponding crops, is a system commending itself to every friend of agricultural improvement; and this is precisely what Dr. Cloud inculcates. Experience teaches that no matter what may be the article cultivated, if the crop does not reach a certain amount, there is a loss; if it equals that amount, the debt and credit are equal, the farmer makes nothing, and loses nothing; while all that exceeds this amount is a clear profit to the cultivator. If to procure this excess of crop, the farmer or planter incurred great expenses for that which would produce no permanent benefit to the soil, he might still be a loser; but such is not the case where the expense incurred is for manures, as this extra expense is amply repaid by the improvement of the soil, and the consequent increase of the succeeding crops. The amount of manure proposed by Dr. Cloud, is certainly large, but the quantity of manure is not the question in doubt; it is not that which entitles the plan in the language of the Agriculturist, to the name of "Big Humbug." We remember the time in this state, and we have a right to presume it was so in Kentucky and Tennessee, when raising 50 bushels of wheat, or 100 bushels of corn to the acre, was pronounced "big humbugs," or something worse, but now the commonness of such crops is such as scarcely to excite remark.

The "South Western Farmer," a journal ably conducted by our former correspondent, M. W. PHILLIPS, Esq., is almost the only one of the many southern papers that we have noticed, in which the plan of Dr. Cloud is properly appreciated, or noticed in that spirit of a true planter, in which it was written. Instead of condemning the system proposed by Dr. Cloud, almost unread, and certainly untried, as some others have done, the Farmer advises that it be carefully read, and an experiment instituted to test its merits. That Mr. Phillips is well acquainted with the culture of cotton, his papers on that subject in the Cultivator, prove beyond a question; and if he has doubts whether the average crop can be brought up to Dr. Cloud's standard, he has none whatever that a vast increase of crop and profit would be the result of its adoption as far and as fast as practicable. In corroboration of the possibility of the crop stated by Dr. C., and to show what a rich soil and more room than is usually allowed will do for cotton, the Farmer adduces the case of Gen. Dunlap, who last season took from one stalk in his garden, cotton, at a rate, which at the number of stalks or hills allowed by Dr. C., would have given 20,000 lbs to the acre. The Farmer justly says that if the acreable product could be increased to only 2,000 lbs., "it would pay a great interest on the capital invested; instead of cultivating six or seven acres to make five bales, we could then make it on three, and have half of our cultivation as now practiced, to devote to improving in manures and other matters." The editors of the Farmer are intending to give Dr. Cloud's system a fair trial the present season, and decide accordingly; a course certainly dictated by common sense.

We have noticed that some writers have in effect deprecated this increase of cotton per acre, as tending to lower the price of an article, the supply of which already appears to equal the demand. This is spoken of in a way which would lead one to suppose the writers were in favor of literally throwing away one-half the productive labor of the cotton growing states, rather than divert it into other channels; or as if there were no other kinds of cultivation to which this labor could be profitably directed. If this is so, if it is necessary to grow cotton at the rate of half a bale or a bale to the acre, because there is no other way to absorb, profitably, the capital held by the planter in labor, then we have only to say that there is something wrong somewhere, and that the sooner the evil is corrected, the better for the country. At the north, we are in the habit of reasoning differently, and if we can raise on five acres the wheat and corn we used to on ten, we deem our labor reduced one-half, and five acres gained for other agricultural purposes; and we have no doubt if our southern brethren, could, by adopting Dr. Cloud's method, or any other, double their average product of cotton per acre, they would find a similar benefit in the results.

From present indications the best effects may be anticipated from the experiments and publications of Dr. Cloud. It has called the attention of planters to the subject, and has led to those inquiries which are always the first step in all improvements. Planters begin to ask whether they cannot raise the same amount of cotton now produced, with less land, fewer hands and more profit, by adopting a better system, and devoting the labor thus saved to the improvement of their farms, the raising of stock, and the culture of crops necessary for home consumption. Many have become convinced from the results of the past, that unless they adopt a different course they cannot sustain themselves; and all will see that because they cannot manure 500 acres in the manner proposed by Dr. Cloud, it does not follow they cannot treat 50 acres in that way.

We invite our subscribers in the south to furnish us the results of their experience, and such suggestions in relation to the improvement of the agriculture of that section of the country as the state of things demand. The large and fast increasing circulation of the Cultivator in the cotton growing states, renders this invitation peculiarly proper at the present time.

HARRIS' TREATISE ON INSECTS.

THIS is the title of one of the most valuable contributions yet made to the American agriculturist. It is from the pen of Dr. T. W. HARRIS of Boston, and does not differ essentially from the Report submitted by him to the legislature of Massachusetts in 1841. The form and price of this edition, however, is such as to place it within the reach of almost every one, and we are confident every farmer will find it a most valuable acquisition. It describes in a more particular manner, those insects injurious to vegetation, and the list is truly a formidable one. There can be no doubt that the agriculture of any country suffers more from the insect tribes, than from all the other classes of animated nature combined; and all the bears, wolves, and foxes of the United States, produce not a tithe of the damage which the farmer receives from the curculio, Hessian fly, or wire worm. What these depredators lack in strength, they make up in numbers, voracity, and fecundity. Although constantly among them, and annually suffering from their presence, but very little is clearly known respecting the habits of insects, by the majority of those most interested; and any work which makes us better acquainted with them, will enable us to guard against their depredations and increase more effectually. The publication of Koollar is a valuable one, but many of the insects described by him are as yet unknown in this country, and some of our most destructive ones do not seem to have been noticed by him at all. Interesting as the study of Entomology is, independent of economical considerations, the importance of a more general acquaintance with the subject is greatly increased when the latter are taken into the account. In looking over the volume we find but one thing which much excites our regret, and that is the absence of figures of the principal insects or those which do the most injury. To the person who has not made Entomology a study, engraving of the principal species, are like maps to the student of geography, essential to his success and progress. They fix the general appearance more distinctly in the mind, and enable the observer to detect the insect required at a glance, and with greater certainty. So far as regards the descriptive part, Dr. Harris has left little to desire; we trust that the forthcoming work of Dr. DeKay, as part of the great work on the Natural History of New-York, will be all that is needed in both departments, the descriptive and the illustrative. In the meantime, we recommend the volume of Dr. Harris as the most perfect and useful history of our depredating insects, that has yet appeared in this country. John Owen of Cambridge, Mass., publisher; pages, octavo, 460; price $2,50.

STEPHEN'S YUCATAN—AGRICULTURE.

ONE of the most interesting books of the season mos certainly is Stephens' Incidents of Travel in Yucatan As a writer of travels he is unrivaled; and the skill and perseverance shown in hunting up, and rescuing from the devouring tooth of time, the astonishing but hitherto unknown monuments of the past in Yucatan, is deserving all commendation. The discoveries he has made demonstrate that an immense population must have existed in that country, at the period of the construction of these ruined cities, to say nothing of the advance in the arts, which the sculptures prove they had made. But this is not the place, nor is our publication the medium for a review of such a work. That it will command the attention of the curious and learned everywhere, there can be no doubt; our object is to make an extract or two, showing some facts connected with the agriculture of that region.

Yucatan is a vast peninsula, nearly the whole of which, with the exception of a central range of hills, or sierra, is based on transition limestone, and remarably level and fertile. Geologically, it much resembles a large part of Kentucky, and like that state, abounds in limestone caves, deep pits, and subterranean waters. After noticing some of the articles cultivated for food, Mr. Stephens adds:—"Indian corn, however, is the great staple, and the cultivation of this probably differs but little now from the system followed by the Indians before the conquest. In the dry season, generally in the months of January or February, a place is selected in the woods, from which the trees are cut down and burned. In May or June, the corn is planted. This is done by making little holes with a pointed stick, putting in a few grains of corn and covering them over. Once in the ground, the corn is left to take care of itself, and if it will not grow, it is considered that the land is not worth having. The corn has a fair start with the weeds, and they keep pace amicably together. The hoe, plow, and harrow, are entirely unknown; indeed, in general neither of the two last could be used on account of the stony face of the country; the machete is the only instrument employed."

This method of planting corn reminds us of the manner in which we, some 40 years since, saw corn planted by some of the pioneers of Western New-York. The trees were felled during the winter, and the logs and brush burned off in the spring. The settler who had no plow and needed none, took an old axe, rather blunt in the bit, and striking it into the ground made an opening in which the seed was deposited. A single cutting down of the "fire weeds," if they threatened to choke the crop, was the extent of cultivation, and beautiful corn was usually the result.

The following is the method of threshing the corn, as practiced on the estate of Don Simon Peon, at Uxmal. If primitive, we think it would be effectual.

"On one side of the clearing was a great pile, or small mountain of corn in the ear, ready to be threshed, and near by was the threshing machine, which certainly could not be considered an infringement of any Yankee patent right. It was a rude scaffold about 18 or 20 feet square, made of four upright untrimmed posts for corners, with poles lashed to them horizontally, three or four feet from the ground, and across these was a layer of sticks about an inch thick, side by side; the whole might have served as a rude model of the first bedstead ever made.

"The parallel sticks served as a threshing floor, on which was spread a thick layer of corn. On each side a rude ladder of two or three rounds rested against the floor, and on each of these ladders stood a nearly naked Indian, with a long pole in his hand beating the corn. The grains fell through, and at each corner under the floor, was a man with a brush made of bushes, sweeping off the cobs. The shelled corn was afterwards taken up in baskets and carried to the hacienda."

The rapidity with which vegetation progresses in those tropical regions is most astonishing. The fact that vast trees were growing on the mounds and ruins of Gautemala and Yucatan, has been adduced as proof of the necessary antiquity of these ruins; but those who so argue, seem to lose sight of another fact, which is, that in a tropical clime a tree will in a few years attain a size for which centuries would be requisite in a less genial one. We think those who have carried back the age of the Baobab, (*Adansonia,*) found on the coast of Africa, to some centuries before the era of the deluge, have fallen into this mistake. At page 286, vol. 1st, Mr. Stephens has given an engraving of a Seybo tree, which at five feet from the ground was 17¼ feet in circumference, and yet it was only 23 years old. Indeed, one of the most efficient agents in destroying those wonderful structures of Central America, is to be found in its luxuriant vegetation. Trees take root on all the deserted walls and terraces. Their roots penetrate their crevices, and this seemingly unimportant power is soon irresistible. Frescoes crumble, pavements and staircases upheave, and walls and cornices tumble before the force of this silent but resistless enemy, tropical vegetation. It is much to be regretted that a vast mass of the most curious sculptures, carvings, &c. found by Mr. Stephens, and with much trouble and expense transported to New-York, should, so soon after their arrival have been destroyed by fire.

"A correspondent of the Southern Planter recommends sowing broom corn thick on ground moderately rich. Cut when three to five feet high, it makes excellent hay—more in quantity than Indian corn."

DICTIONARY OF TERMS USED IN

Agriculture and its kindred Sciences.

LIGHT.—Two opinions are maintained as to the nature of light. The first, which is the system of Newton, supposes light to be particles, luminous in themselves, thrown off from the sun with inconceivable rapidity, and thus diffused through all space. The second, which found able advocates in Franklin and Euler, and which may be perhaps considered the more general opinion of the philosophical world, refers the sensation of light to the vibrations of a subtle fluid or ether pervading all space, set in motion by peculiar qualities of the luminous body, and producing on the nerves of the eye similar sensations to those effected by the waves of air on the ear. We think the latter theory explains more facts connected with the optics than the former. According to the theory of vibration, the different colors of light are not owing to different colored rays, but to the rapidity or slowness of the vibrations; the more brilliant the color, the more rapid the undulatory motion. But these theories are of little consequence to the agriculturist, compared with the effect which light exercises on the functions of vegetation, which are most extensive and important. All the peculiar secretions of plants owe their formation almost entirely, if not exclusively, to the action of light; and this is effected by the decomposition of the carbonic acid and water, the separation of the watery from the solid parts, the deposition of earthy matters and salts, and the extrication of nitrogen by the action of light on the leaves of plants. To light they owe their color and their fragrance, since if grown in darkness they seem to be destitute of both. "Timber, gum, sugar, acids, starch, oil, resins, odors, flavors, and all the numberless narcotic, acrid, aromatic, pungent, astringent and other principles derived from the vegetable kingdom, are equally influenced, as to quantity and quality, by the amount of light to which the plants producing them are exposed." All plants cannot, however, endure the same quantity of light, some perishing where others flourish. The excellence of fruits and their maturity are mainly depending on this; hence the necessity of a free access of light to all plants; mere heat will not do; the decompositions and recompositions required cannot be effected without this powerful agent. The powerful attraction light exercises on plants, and their fondness, so to speak, for it, is most striking. A potatoe vegetating in a cellar throws off its shoots towards a window, however dim or distant it may be; the branches starting out from trees on the margin of a dense wood have all their growth on the side of the tree next to the light or sun; and we have often seen on the boders of thick woods, millions of little flowers turning their star-like eyes on their bending stems towards the cleared lands, apparently anxious to revel in the light and sun. The effect which light has in changing the qualities of plants is strikingly shown by the common potatoe, when it is partially uncovered by accident, or forced out of the ground in the process of growth. Instead of the white color, and pleasant farinacious taste, it becomes a dark green, and of a nauseous bitter taste, in no respect, unless in form, resembling those not so exposed to light. Leaves always turn the same side of the leaf to the light, nor can this order be reversed without injury, or an attempt on the part of the leaf to correct it. Take for instance the upright stem of some creeping vine, Bittersweet or Honeysuckle for example, and bend the top downwards, so that the underside of the leaf shall be uppermost. In a few days the leaf will turn on its stem, twisting it one-half round, and regain its original position to the light. In view of the constant and powerful effect of light on other bodies, and when we remember that that, or the cause of it, must be material, we are induced to ask whether light itself, or the producing cause, may not be constantly undergoing solidification by combination with other matters, thus giving rise to those changes which seem inexplicable except on some such theory.

LIME.—This is one of the most important of the earths, and seems to be indispensable in some of its forms, to the purposes of agriculture. Within a few years public attention, both in Europe and the United States, has been drawn to it, as a fertilizer, and although much difference of opinion has existed as to the manner in which its influence is exerted, it cannot be doubted that it is one of the most valuable of manures. It is applied to soils in various quantities, rarely less than 50 bushels per acre, and as an experiment 500 bushels to the acre have been used. So large a quantity cannot be of use, as the experiments of Thaer and Liebig demonstrate that in no crop can but a small part of that quantity of lime be used, while in some it may be positively injurious. The southern part of Pennsylvania, and in Delaware, Maryland, and part of Virginia, are the parts of this country where lime has been most extensively used, and with the most undoubted success. Very few experiments have been made with lime in the northern states, and in them the success, so far as we have been able to learn, has not been very marked or decisive. Perhaps too much of an effect, or one too immediate, has been expected from it, and hence the disrepute or indifference with which it is treated. At the north its most beneficial effects have been most fully shown when made into compost with other earths, vegetable matters, peat, yard manure, &c., than when used alone; although in making such composts it should never be placed in contact with the manures used. Lime varies very much in its quality, and this should always be looked to, when the farmer purchases for application to the soil. Carbonate of magnesia is the most common substance that deteriorates it, and this sometimes equals 40 or 50 per cent. There are some who contend that magnesia does no injury, but as it cannot produce the effect we desire from lime, its presence certainly can do no good; and it would be both better and cheaper for the farmer to use only that lime which is as near purity as can be obtained. In an analysis made by Mr. Frazer, of several of the Pennsylvanian limes, the pure carbonate ranged from 57 to 96 parts in 100; and the carbonate of magnesia from 0 to 42 in 100. Yet the lime which so abounded in magnesia was from a range of limestone passing through several of the best agricultural counties in the state, and where such lime is most extensively used in tillage, and most successfully.

LINSEED.—This is the seed of the common flax, and is one of the most valuable of seeds cultivated for oil. There are three varieties of the plant cultivated, but they do not differ essentially in their habits or qualities from each other. The process of growing, pulling, rotting, and dressing is familiar to most farmers, though such is the value of the lint or flax and the seed, that we think its culture might be profitably extended. For common painting the linseed oil is the best that can be procured, and it forms the base of all varnishes into which oil enters as a part. After the oil is expressed from the seeds, the residue, called oil cake, is one of the most nutritive substances used, and is justly celebrated for fattening animals. When cattle are to be fed on oil cake, they are usually put up at the end of the grass season. The cake, broken or ground fine in mills, is fed to them at the rate of about four quarts a day each, one half in the morning and the other at night. With the oil cake, is also fed cut hay or straw, cob meal, or inferior grain or other matters; and the result is they fatten very rapidly. A small quantity of oil cake fed to horses during the winter, gives their coat a fine sleek appearance, as well as improves their condition. Oil cake is sometimes fed to milch cows, but while it increases the milk, it has the effect of giving it a somewhat unpleasant taste.

LITTER.—When any animal, and particularly the horse, is stabled, a liberal quantity of straw should be spread over the floor on which he stands or lies, and this is called litter. The advantages of this course are that it is easier for the feet of the animal; it is cut up and trampled, so that the straw is more readily converted into manure, and it absorbs a considerable part of the liquid manure, which is not only the most valuable part, but most liable to escape and be lost. Warmth is essential to the comfort of animals, and litter contributes greatly to this effect. The farmer who is careless of supplying his stables, and pig pens, and cattle yards, with litter, to the extent of his ability, is suffering a severe loss.

LOSS OF CUD.—When food has been taken into the stomach of certain animals, as the ox or sheep, it is after a time returned from the stomach to the mouth, to be subjected to a second grinding, or mastication, and this process is termed chewing the cud. This operation is slowly and leisurely performed, and when enough has been ground or masticated to satisfy the cravings of hunger, or fill the comparatively small or true stomach of the animal, he seems to fall, if undisturbed, into a dreamy sort of pleasure, well adapted to the functions of digestion and nutrition. Sometimes the ox will ruminate as he works, but generally work suspends rumination. Rumination is easily interrupted; surprise, fright, or compelling an animal lying down to rise, will do it, but unless there is some further difficulty, chewing the cud will be speedily recommenced. What is called the loss of cud is rather the symptom of disease, than a disease itself. Debility, consequent on poor keeping, is a frequent cause. It generally accompanies complaints attended with fever, and the treatment should be rather directed to the removal of the fever, or determined cause, than to simple restoration of rumination. When inflammation exists, a dose of physic, with a slight portion of some aromatic medicine, will frequently effect a cure; but if there is no fever, and there are indications of general debility, more tonic and aromatic medicine may be given. Caraway and ginger are the best aromatics, and salts will prove one of the best alteratives in the case of loss of cud. There are a host of remedies for loss of cud current among farmers, but as they are directed in general to the symptoms rather than the disease, they are unworthy of notice. Keep your animals well, give them salt frequently, let them have a mess of roots occasionally during the winter, and they will be as little troubled usually with loss of cud, as with the hollow horn.

LUCERNE, (*Medicago sativa.*)—This is one of the most common cultivated grasses in the south of France, in Spain, Italy, and on the shores of the Mediterranean Sea generally, and has been a favorite from the earliest ages. It grows when cultivated some two or three feet high, is perennial, and flowers in June or July. Lucerne requires a deep and light soil, with a free or porous subsoil, and in good condition from cultivation. It will not grow on all soils like some of the clovers, but on a heavy compact soil is sure to prove a failure. Lucerne is to be cultivated much as the clovers, which it greatly resembles in product and quality, except that when sown in drills, and hoed, as it sometimes is, it may be kept in the ground a long time with increasing productiveness. If sown broadcast, and left to take its chance, it is apt to be soon crowded out by the grasses and hardier plants It should be sown in the spring, and from ten to sixteen pounds per acre may be used. It does not arrive at its full growth and productiveness until the third year, but it may be mown or cut from the first year. There is no plant so well adapted to the soiling of animals, particularly the horse, as it is early, grows rapidly, and is eminently wholesome and nutritive. Perhaps there is no better feed for milch cows than lucerne. When attempted in this country on the right soil and in a proper manner, it has succeeded very well, but fears are entertained that in the northern states it will not be found as hardy as clover.

MADDER. (*Rubia tinctorum.*)—This is a plant cultivated for the sake of its roots, of which vast quantities are used for dyeing in the manufactories of Europe and this country. Holland is the most noted country for the production of madder, and from the superior mode of cultivation, drying, sorting, and grinding, the Dutch madder is considered better than any other. Madder requires a rich, deep, and rather sandy soil, or if not sandy, one that has been well drained. The seed, which consists of cuttings from the previous year's growth, is planted in rows 18 inches apart, and the plants 12 inches in the rows. Some of the most successful growers in this country, however, prefer planting in beds six feet wide, with four rows of plants in a bed, and a space of nine feet between the beds unoccupied. This space may be planted the first season with corn or potatoes, without injury to the madder crop, and is useful as a space over which a team with manures or compost for the madder beds, if necessary, may be driven. The slips of the second year are the best for seed, and three years are required for the roots to arrive at maturity. Much of the profit of the madder crop consists in the manner in which the tops of the plant are laid down and covered at each dressing of the rows or beds, since all so covered is converted into root, and is equally rich in coloring matter with the original ones. It is estimated in England, that five lbs. of fresh roots go as far as four lbs. of dry ones; and as from six to seven-eighths in weight are lost in drying, it is clear that where practicable it is much the best to use the fresh root. It is, however, usually dried in large rooms, or ovens of moderate heat, and then ground and packed in barrels for market.

MAD ITCH.—This is the name given in the western states, where it most prevails, to a disease of cattle, commencing with apparently spasmodic motions or jerkings of the head, and itching around the nose and base of the horns. They will lick their sides and back, rub their herds, and the jerk or hiccup inflates them with wind almost to bursting. This symptom is not, however, always present. As the itching increases, the animal rubs more furiously, froths at the mouth, and finally in from twelve to twenty-four hours, dies raving mad. Mr. Simms of Indiana, after losing several of his cows by this disease, succeeded in curing the remainder by the following treatment. As soon as the animal was attacked, he gave it as much soot and salt as it would eat. In a few hours he gave from three-fourths of a lb. to a lb. of pounded brimstone or sulphur; and in the morning as many salts. It is the opinion of Mr. S. that sulphur alone would effect a cure, though he accompanied its action with salts. The cause of this formidable complaint like that of milk sickness in the same region, is unknown.

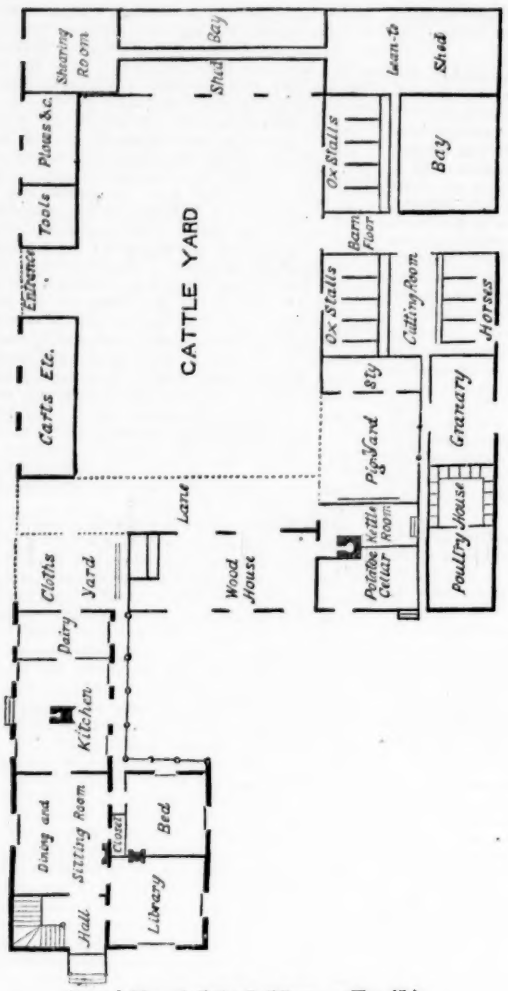
MADNESS.—One of the most formidable and dangerous diseases to which animals are subject, is madness, or *rabies*. It usually originates in some domestic animal as a disease, commonly in the dog, and the infection is communicated to others, by biting or by allowing the saliva or froth of the mad animal to fall upon, or be injected into a wound on the bodies of others. The saliva of an ox, or of a man, laboring under the hydrophobia, is as dangerous and fatal as that of the dog that originated the disease. Unfortunately there is as yet no effectual remedy for this disease. Instant and complete excision, or cutting out the wounded parts, is probably the most certain preventive of the disease. Next to this, bringing a pencil of lunar caustic, the point made sharp, so as to touch every part of the wound, into contact with every part, will be most effectual. When an animal has been bitten, he must be carefully examined to ascertain all the wounded parts, as the smallest scratch may be fatal, and cutting or burning one will be of little avail, if others are overlooked. Animals rarely show that dread of water when mad, that characterizes the disease in man; and they will frequently drink freely of water till the last. Among animals there are two kinds of the disease; the dumb madness, and the excited or raving madness. In the first, the animal is frequently harmless through the whole of the disease; in the second, he is most ferocious and seems eager to destroy. But in all cases, no chance for mischief should be allowed, as the disease at times seems suddenly to change, and the dog or the bull will inflict the most terrible injuries. Singular as it may seem, the milk, or even the flesh of animals suffering from madness, may be used without the least danger. The poison is no where evolved except in the saliva, and however unpleasant it might be to the imagination to feed on the milk or flesh of a rabid animal, no fatal or indeed injurious results, need be apprehended.

To Destroy Slugs upon Wheat.—Collect a number of lean ducks; keep them all day without food, and turn them into the fields towards evening; each duck would devour the slugs much faster than a man could collect them, and then get fat for market.—*Nashville Ag.*

It has been remarked before the American Institute, that "the revival of Agriculture commenced in Flanders, about seven hundred years ago. There the soil was little better than white barren sand—now its increase is said to be twice as great as that in England. The grand maxim on which the Flemish farmer acts, is, without *manure*, no corn—without cattle, no manure—and without *root crops*, no cattle."—*Ib.*

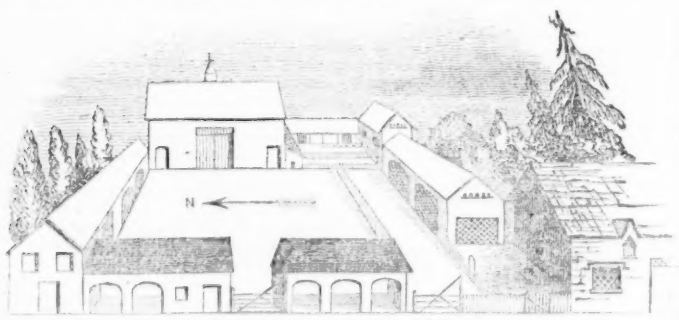
PLANS OF FARM BUILDINGS.

MESSRS. GAYLORD & TUCKER—Within are some plans, which, though not done in an artist's way, and void of accuracy in detail, may yet suit the convenience of some of your thousand patrons, or suggest arrangements to mature a happier system of their own. I have endeavored to adapt them to the circumstances of a majority of your readers, both as regards their farming interests and personal estate. The poor (in funds,) will want a poorer; the rich a more ostentatious dwelling; and the *disputatio de gustibus* will furnish sundry other malcontents.



Ground Plan of all the Buildings.—(Fig. 45.)

First is the ground plan of all the buildings proposed, (fig. 45.) Entering by the porch at the extreme left of the diagram, we find a hall lighted from the west, with a flight of stairs leading to three good sized chambers. A door at the right, opening upon a snug library or parlor, or business room; immediately before the entrance we open upon the sitting room—the dining room, in short, the family room, the farmer's *sine qua non*. To the left, are passages to the library or parlor again, to closet, and through back entry to bed room. Before opens the way to kitchen. Passing out of the kitchen to the left, we enter upon the porch, running the length of kitchen and dwelling; following on to the right, and turning to left, we enter a spacious wood house. Through this we reach the door to kettle room, (the eye must follow the plan as well as *exposé*,) and the potatoe cellar, with a little slide window. Ascending (steps are marked on chart,) to the farther end from that on which we entered, we find ourselves on a rude veranda, formed by the projecting eaves of the poultry house



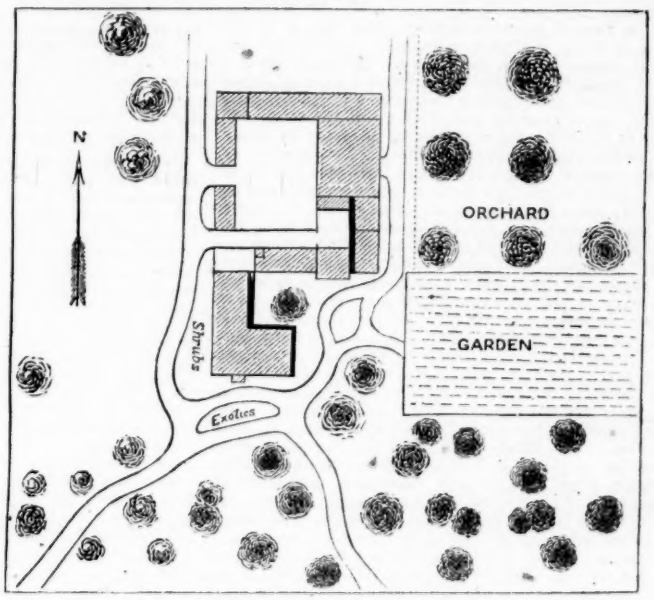
Barn, Out Buildings, and part of Dairy, from the west.—(Fig. 46.)

and granary; along this, doors open upon hens, eggs, and grain; while on the other side, below you by three or four feet, are the pigs again. The cutting room claims attention next. It surely is not far to carry fodder to horses and oxen on either side, and it is lighted by good sized window over top of sty, which, by the way, is a leanto which is attached to barn. Upon the barn floor is a trap door, and above it a slight tackle; the trap door opens upon a mammoth cellar for roots, and the tackle brings them to the mouths of hearty beeves. But on, by gang-way to extreme end of barn, we pass stalls on left, and bay to the right, under edge of which is an opening to the rack in the open cellar below, to throw fodder to the young stock. Passing down a step or two at end of gang-way and through large shed, we come upon another gang-way, (built to walk on,) on one side of which is a rack under an open shed, on the other a bay. Passing up a step or two at the end, is a door to shearing room; above it a lathed and plastered wool room, (and I should have remarked, that over the kettle room is a grand large work shop.) Out at the front of this temple of fleeces, and we are on the ground again, and with a glance at some well built sheds, whose outline is on the plan, for tools, carts, etc. Look at my picture of them, (fig. 46,) barn and all, from where you stand.

Passing along a smooth graveled way, by dairy and kitchen and all, see again a view of the house in perspective, (fig. 47.)

View of House from the southwest.—(Fig. 47.)

The laying out of the grounds is here, (fig. 48.



Plan of Buildings and Grounds.—(Fig. 48.)

A word as to specifications and estimates. The first, further than I have given by my outlines, I consider useless, as each one's need will suggest deviations from any rule laid down. All that is essential to the unity of the plan is the preservation of correct proportions. The eye of taste will guide in this matter; the eye without taste, will never see the lack of precision. Let those wishing fuller specifications, first resolve the dilemma.

The estimate could be made, but how should it be made? For brick, stone, wood, stuccoed, plain or ornamented? Shall it be made in view of the superintendence of an intelligent proprietor, saving, by a thousand means, what to the indifferent would swell the outlay by thousands? $2,500 would finish the buildings enumerated cheaply, —$3,500 well,—and $5,500 elegantly. Nearer than this, in view of contingencies, it is impossible to come.

The style of building will admit of much more cheapness, consistent with beauty, than an ordinary farm-house; and it will admit of an ornateness, in the hands of taste and wealth, to please the most lavish. The poor man may cover the chestnut of the frame, taken from his own grove, with plain boards, well battoned; within, he may lath and plaster, cheap as lime and sand. The wealthy may hang black oaken wainscotings, wrought into the rich forms of Gothic wildness—arching his polished jambs crowning his doors with vine leaves; without, he may have hewn stone labels, and elegantly cut tracery, and oriel windows of many colored glass, with all the *et ceteras* that blend so gloriously in the old abbeys (I have seen their portraits,) of olden time.

The advantages of the plan laid down are, first, that the house and yard are effectually protected from cold winds by the out buildings; and there is a most gracious shelter from northeasters about the kitchen door. Secondly, every cool breeze of summer has full play upon the east, west, and south of dwelling. The effluvia and noise, and offensive sights of barn yard, are effectually shut off from the house, though near enough for every convenience. The maid may empty her pail of swill, (I like the Saxon,) without wetting a stray lock or a dainty slipper. The farmer, too, in sickness or in storm, may see to the health and provisions of every animal, without encountering the weather. The wood house is in grateful contiguity with the kitchen; the piggery, with potatoes and kettle; the shop overhead takes advantage of the chimney for a winter day's work. The poultry yard is near the piggery, the cattle yard, the granary, and (best of all) the cook; the granary is convenient to the pigs, the poultry, the horse and the cattle.

A word in anticipating objections. "The house is too near the noise and effluvia of the barnyard." I plead guilty in a measure; but on reference to the plan, it will be seen that the wood house and shop, and lane, intervene, and prevent all unpleasant connection. Again, summer winds blow in general (in this climate,) from the dwelling, carrying in opposite direction disagreeable effluvia. But after all, the farmer who is ashamed of his cattle yard, or its odors, had best set his house from them a goodly distance indeed! "But the buildings are too closely united, a fire would prove disastrous." True, but get insured, and *keep insured*. Industry will pay for the policy.

D. G. MITCHELL.

Salem, Conn., 1843.

THE ENEMIES AND DISEASES OF WHEAT.

MESSRS. EDITORS—In a former paper I gave you some of my opinions on the proper culture of wheat, and the result of some experiments I had instituted in reference to that subject; and with your leave I will now offer some remarks on the enemies and the diseases to which this crop is liable.

So far as regards the enemies of wheat, we are all sadly in the dark. Names and insects are confounded in different parts of the country; and the characters of our insect depredators have not received that attention from men of science necessary to the proper elucidation of their history, or their proper place and classification. Let us hope that the forthcoming entomological section of the survey of this state will remedy this evil, and give the farmer, who is more interested in a correct knowledge of insects than any other man, the knowledge so essential to protecting their crops from such ravagers.

Perhaps the insect which produces the most extended injury to wheat in the United States, is the Hessian Fly. As this insect made its appearance on Long Island, or first attracted notice, while the British or German troops occupied that place during the revolution, it was naturally supposed that it had accompanied the invaders, although it seems still doubtful whether the Hessian fly, or what we term such, is now found in Germany. The family or genus Tipulæ to which this insect belongs, is very numerous, and it is probable there is more than one species whose habits and destructive tendencies are similar. The fly deposits its eggs at the base of the leaves near the surface of the earth, and when developed the larvæ preys on the stem, exhausting it of its juices, weakening the stalk, and where they are numerous causing it to break off near the root, or fall down, by which it is lost. It would be useless for me to enter upon a history of the various conjectures which have been started with reference to the manner in which its eggs are deposited and the changes it undergoes. The farmer more commonly sees it in the chrysalis state, in which it resembles a pale flaxseed in size and color, and this is usually its state at harvest time. This fact, connected with others, would seem to prove that two crops of insects are sometimes, or indeed generally produced, where wheat is much damaged; one, the eggs of which are laid in the autumn sown wheat and pass the winter in the chrysalis state, and the other from eggs laid in the wheat in May or June, by insects produced from the aforesaid chrysalis. These in their turn become perfect insects in season to perpetuate their race and their mischief on the fall grain. I have never known any good results arise from experiments on wheat after it is once attacked; all useful measures must be preventive. In the first place all stubble in which the fly is known to exist should be plowed under, and as deep as possible, as soon as the crop is taken from the ground. In this way the greater part will be destroyed, and further attacks mostly be prevented. As the period of the perfect insect is but a few days, the seeding of the fall sown wheat should be delayed in those districts where the fly has prevailed, until that period is over. I have always observed in years when the fly was found at all, that the earliest sown wheat was the most damaged; and at times a field of wheat sown in August has been greatly damaged, while one put in the middle of September wholly escaped. There is, however, a serious ob-tacle to sowing wheat too late, and that is the danger of freezing out in our hard winters, owing to its being imperfectly rooted; consequently late sowing should never be practiced unless the danger of the fly is such as to justify the risk. Experience shows that some wheats are less liable to injury than others, and such are those having hard stiff stems, as the Black sea and the Mediterranean; but I believe more is depending on the time of sowing than any thing else. As a general rule, if the wheat is attacked to any extent in the fall, a poor crop may be expected, as in such cases they rarely fail of appearing in multiplied numbers in the summer.

The Wheat Worm, which has been so destructive in the eastern part of New-York and in the New England states, as for a time almost to put a stop to the culture of wheat, has not prevailed to any extent in Western New-York. I have for years observed a few of them, and long before they had attracted general notice, a friend stated that in clearing up about a hundred bushels of wheat, he found, much to his surprise, nearly a bushel of the wheat worm was collected. The next year, he had none in his wheat, and I have observed this result in my own wheat frequently. As the parent of the wheat worm is a fly, and the egg is deposited in the ear or the kernel while soft, and as its range of existence as a perfect insect is limited, it would seem probable that any application which should render the growing wheat disagreeable to the fly, or the air unfit for its respiration, would drive it from the wheat. A number of instances are on record in which sprinkling caustic lime over a field when the dew was on, saved it from the worm, but the lime must be recently slaked, so as to be in the form of an impalpable powder, and it should be applied in season, or before the wheat ear is attacked, or little good will be done. All flies are extremely averse to smoke, and as the fly is most active in depositing its eggs about sundown, making smokes on the windward side of wheat fields was resorted to by some farmers with benefit, as the smoke floating over and among the wheat compelled the insect to change its quarters without delay. All pungent or offensive odors have the same result, as the smoke of sulphur, or the stench of the skunk, which last I can readily believe would give them their quietus. Late sowing of spring wheat was found the most sure preventive during the prevalence of this pest, as it did not show the ears until the time of the fly was over; but it was found that such wheat was more liable to be affected by blight than earlier sown crops. It may be considered a fortunate event for the world, that all these various depredators on farm products do not usually exert their destructive energies for any considerable time; but owing to causes which we cannot explain, seem to perform their mission of devastation and pass away, perhaps not to be heard from again in the same way, for years.

The Weevil does not attack wheat in the field, but only in granaries or in stacks. It is rarely found in the north, though extremely troublesome at the south and in all warm climates. The wheat worm was frequently called the weevil, but the parent of the one is a fly, of the other a bug, and it should be remembered that all weevils or curculios, are bugs, and never flies. Last summer I received from the south a parcel of the Mediterranean wheat, and when I opened it for sowing, I found that it was much damaged by the weevil. As an experiment, I picked out a few of the weevil, and with some good sound wheat, placed them in a vial closely stopped, wrapped in thick paper so as to make it dark and put it away. Opening it for examination a few days since, I found they had been very industrious, a large portion of the kernels having been perforated and all the flour eaten out. Some of the bugs appeared to be dead, but as they always on the least disturbance feign death, I am unable to say whether they were actually defunct, or only "playing possum." The parent weevil deposits its eggs in the kernels while in the granary, and the destruction they frequently cause is immense. A series of experiments to determine the best method of preventing the injury it occasions, has been carried on by the French Institute, and it was found that frequent stirring the grain succeeded the best. In all warm countries the difficulty of preserving wheat from the weevil is one of the most serious drawbacks on its culture. Barley is also a favorite grain with the weevil.

There is another insect which sometimes causes much loss to the wheat grower, though its ravages are mostly confined to warmer climates than ours. It belongs to the moths or millers, as they are commonly called, and I think is by Linnæus called *Tinella granella*. It is one of the smallest of moths, and deposits its eggs in the growing grain, much after the manner of the wheat worm fly. The larvæ feed on the inside of the kernel until it is ready to undergo transformation, or does undergo it, and emerges a perfect insect. This moth also attacks Indian corn at the South, and is there improperly called the corn weevil. I have seen this moth in wheat brought from the southern states, and from Texas, in the ear, and the perfect insect was developed after its arrival in this state. The same fact I have also observed in some corn brought in the ear from the Gulf states. It seemed as though nearly every kernel had been perforated, and produced its moth. At the North I have witnessed its presence but once. This was some 20 years since, in a specimen of new wheat at a mill, where many of the kernels were bored, and while in some the worm was still within, in others the moth was escaping. It may be more common, but I have not seen it; and I believe that at the South where it is most destructive, no means of prevention are known.

Wheat in this country is liable to diseases, but there are none which occasion much loss to the wheat grower, smut and mildew excepted. When western New-York was first settled, nearly all the wheat grown, and particularly on any other than oak lands, was very smutty, and washing it, to render it fit for eating, was a common though tedious operation. Where smutty wheat was grown and ground, the flour had a dark color and a most offensive smell. With the progress of cultivation, the evil decreased, but there were few years in which more or less smutty wheat was not produced, and even now enough of it is found to render smut machines in flouring mills necessary. There is no excuse for growing smutty wheat, and our best farmers have excluded it from their premises. Nearly 30 years since, the practice of brining and liming wheat was introduced into the vicinity of Cayuga lake, and the purity and freedom from smut thus occasioned, caused a great demand for Cayuga wheat for seed in the neighboring counties. The practice has spread until now few farmers, who are worthy of the name, will sow seed wheat until it has been brined or limed, and where this operation is properly performed, perfect exemption from smut may be considered as certain. Smut is unquestionably an infectious disease. The best and purest wheat in the world, if mixed with smut, or transported in bags used for carrying smutty wheat, will produce smutty grain; and some instances have come under my notice, in which the effect produced by smutty wheat seemed to remain for years in the ground. Five years since, I sowed a small quantity of wheat on one side of a field. It was a new kind, and I supposed it pure, but while sowing it I observed some smutted kernels. At harvest it was as smutty a piece of wheat as one would wish to see. Last year I took another crop of wheat from the same field, and as the seed was fine, dispensed with the use of lime. At harvest, as before, the wheat on this part of the field was very smutty, and by its presence the boundaries of the first smutty part of the crop, could be easily traced. I know of no difference in the quality of the soil, sufficient to account for this fact. Smut is a great nuisance in a wheat crop, and as it may easily be kept from doing injury, no farmer should neglect the proper precautions. There are many substances that will destroy the vitality of this fungus, such as a steep of blue vitriol, an arseniacal solution, &c., but the cheapest and best mode of treatment, is a wash of strong brine, and then drying with caustic lime.

Mildew, rust, blight, are only different names of the same thing, a disease of wheat which it is believed causes more actual loss to the wheat growers of the United States, than all other causes combined. There is rarely a year in which some districts do not suffer from it, and in some years it is general throughout the country to a greater or less degree. In 1842, the wheat crop of western New-York was reduced more than two millions of bushels by this cause alone. In fact, very few samples of wheat can be produced which do not show the influence of this injury. Rust is perhaps the most common name of the disease, as the red color of the stem is one of the first things that attracts notice with the ordinary observer; but to the practiced eye, there is a peculiar hue to every field attacked, which announces with certainty the presence of the disease, as far as the grain can be fairly distinguished by the eye. It is as different from the fine bright hue of sound grain, as is the dark, sunken, cadaverous countenance from that of perfect health.

What is rust, or rather what is the cause of rust? is one of the most important questions that can be proposed by the farmer for solution. He has a beautiful field of wheat; it has stood the winter well, the growth is fine, the ears have shot up to their full height, it has blossomed, and the berry is fast forming, and every thing promises a bountiful crop. Suddenly a change comes over the field. Its healthy hue is gone, it looks dark and sickly. On examination he finds the skin of the stems checked, split, and broken in a thousand places; at first a clear gummy matter exudes from the straw, but it soon on exposure to the air, becomes dark and hard. In a few hours a red rust is apparent on all the places where the straw is split, or the skin broken, which is easily washed or rubbed off. It is soon apparent that the wheat has received a serious if not a fatal injury. The stalk does not ripen, but remains of a dull green color, and the berry ceases to fill. New exudations take place from the stem so long as the circulation remains, and new coverings of rust show themselves, as the first are washed off by rains, or blown away. The stalk and the berry instead of ripening, dry up, shrink, and are comparatively worthless. This description I have drawn from my own observations on my own crops. In one year I have had fields of from 16 to 20 acres so destroyed as hardly to pay for the harvesting; and many farmers in western New-York have the past year found themselves in a similar situation.

Rust has been attributed to honey dew, to insects, to the barberry, and indeed to almost every thing which by any possibility could injure wheat; but I believe facts will show that atmospheric causes acting with energy while the grain is in a peculiar condition, is the true origin of this great evil. Observations of the manner in which this disease attacks wheat, made during many years, have shown me that the following conditions must be present to produce rust in wheat. The weather must be warm at the time of, or immediately preceding the attack; there must be an abundant supply of moisture from showers, dews, or both; the plants must be in that state of their growth when their circulation and growth is most active, and the change in their juices preparing matter for the berry most rapid. These conditions I have never known absent; there are others which frequently accompany, or indeed seem to invite the attack of blight. Thus wheat heavily manured with fresh dung, is very liable to rust; as is that which is late in the season in coming to maturity. In short, I have never known wheat to blight, except under circumstances calculated to force its growth prematurely; or by having its maturity delayed too long for the perfection of that process. The history of blight, appears to me to be somewhat like this. The accompanying heat and moisture force a large quantity of juices into the plant, the power of which is more active at this juncture than at any other time, as is proved by its making immediately previous, or while earing, a greater growth in one week, than in any other month of its life. During the process of conversion into starch, and while in the state of fluid gum, and while every vessel is distended with these juices, the cuticle or skin is softened and weakened by moisture, and finally gives way under the pressure from within. That the stem of wheat, grass, &c. is softened and weakened by rain, is obvious to every farmer, and the skin in that state gives way readily. The juices, half elaborated, escape from the stalk through these openings, clear at first, but soon becoming dark and hard. While in this soft state, it becomes a suitable nidus for the fungus peculiar to wheat, which fixes on it, and in a few hours matures its sporules or minute seeds, which being red, or like iron rust, give the name of rust to this disease of the wheat plant. In this state of things, it is as impossible for the plant to properly mature, as it would be for an animal to exist deprived of the chyle as it was elaborated in the stomach, or the blood after it had formed. The only way to check the escape of this juice from the plant, is to cut off at once the accession of more fluid from the roots, and this is done by cutting the grain. This done, a partial circulation will exist in the stalk for a limited time, and what juice the berry receives will be of the quality required, which it would not be, if forced from the stem by the presence of unorganised juices. For these reasons I have invariably found that when wheat was badly attacked, and the juices had begun to exude, the sooner it was cut the better; and in this I believe every farmer who has tried the experiment will concur with me.

If I am right in my conjectures as to the cause of blight, it is evident the farmer can do comparatively lit-

tle to avert the disease. He can indeed avoid direct and heavy manuring; he can avoid sowing so late as to render it certain the wheat cannot mature in season; he can use substances favorable to the formation of the silicates required to give hardness and firmness to the stem, as ashes, and other alkalies; he can plow or sow his wheat in drills, to enable the air to circulate among his grain more freely and more quickly dry up the pernicious moisture; but until he can command the seasons, and determine their temperature and degree of moisture, he can do little towards procuring entire exemption from blight.

A Wheat Grower of Western New-York.

ICE-HOUSES AND THEIR CONSTRUCTION.

Messrs. Gaylord & Tucker—There was a time, and that not long since, when the use of ice in summer was considered a mere luxury, but it has now become a matter of convenience and practical utility in the preservation of butter, meat, fish, and other articles of food, and in the preparation of refreshing drinks during the heat of summer. Hence we find that buildings as reservoirs of ice in warm weather, have become more common and are increasing in number; but there appears to be a diversity in the manner of constructing them, or a want of information as to the method of keeping out heat, or preventing the ice from melting. A few observations on the subject may not be amiss, and will be made in the hope that it may lead those who are about to provide themselves with an ice-house, to adopt the correct principle in its construction.

To preserve ice during the heat of summer, it must be protected from the influence of the air above, and the temperature of the earth around and beneath the building in which it is contained. This is done by interposing substances which are *non-conductors of heat*, between the ice and surrounding bodies. The building may be erected above or beneath the earth, to suit the convenience of the owner.

A body of ice in an ice-house, will gradually diminish by melting in summer, not only from atmospheric influence, but also from the heat of the earth around and beneath it. Hence it must be guarded by a *non-conductor* above and below, as well as on the sides.

An ice-house may be of any given dimensions or capacity, to suit the uses to which the contents are to be applied. For a private family in the country, a building ten feet square and ten feet deep, holding a cube of ice of those dimensions, will have a portion of it remaining when the frosts of autumn render its further use unnecessary until the ensuing season.

The substances which are most generally employed as *non-conductors* in lining ice-houses, are *charcoal, tanner's bark, limbs of cedar and pine trees, hay, straw and chaff* of wheat, rye, barley, oats or rice. Wool, feathers and hair, belong to this class of bodies, but they are too expensive to be applied to such a purpose.

Those who have constructed ice-houses without the use of the abovementioned *non-conductors*, or as they may be more correctly named, *slow conductors of heat*, have been disappointed in preserving ice through the summer in the latitudes of 40° and 41° north, as the following examples will show:

1. A farmer, for instance, built an ice-house under ground with a wooden frame, and planked the outside to keep the ice from coming in contact with the earth. He threw some straw in the bottom and filled it with ice, but before the month of July it was entirely melted.

2. Another person planked both sides of a wooden frame under ground, leaving an empty space of eight or ten inches all around the ice, supposing that such a barrier of cold air between the earth and ice, would prevent it from melting, but it was all gone in July.*

3. An ice-house, twelve or fourteen feet square, partly under ground, on a side hill, with a northern exposure, having hollow walls and a plank floor some inches above the bottom, was filled with ice, and the ice covered with straw, but it disappeared in August, when it was most in demand.

4. A circular ice-house under ground, ten feet deep, and as many in diameter, built of stone, would not preserve ice through the summer.

5. A farmer desirous of rendering his ice-house doubly useful, had a milk room constructed over it, but the floor confined the air under it, and over the ice, and caused such an accumulation of heat, that the ice was soon melted, and neither object was obtained.

From these examples it may be seen that something more is wanting to preserve ice in summer, than a cavity beneath the surface. This will be rendered more evident when we ascertain the average temperature of the earth in warm weather, and find that it exceeds by eighteen or twenty degrees the freezing point, on the scale of Farenheit's thermometer. We are enabled to do this by referring to the late Dr. Mitchell's "Experiments on the temperature of spring water near New-York," as related in the New-York Medical Repository, vol. VII, p. 414:

"On the 13th, 14th, and 15th days of August, 1803, Doct. Mitchill made many experiments on the temperature of water gushing from the interior parts of the earth in the neighborhood of Plandome, on Long Island, in the latitude of about 40°, 45', N."

"The coldest springs that could be found, were of the temperature of 54°. And this was the exact heat of water fresh drawn from a well of thirty feet in depth, partly shaded from the sun, and situated in a slope facing the north. In all these experiments the elevation was but a few feet above the level of the ocean."

"These heats correspond very nearly with the temperature of the cave of the Observatory of Paris, ninety feet under ground, which has an invariable point of 53 degrees, and of the deep cave in England, of which Mr. Boyle writes, which was of the same warmth."

"Mr. Kirwan, in his *estimate of the temperature of different latitudes*, has calculated that the temperature of Cambridge, lat. 42°, 25', in Massachusetts, was 50°, 3'; and of Ipswich, lat. 42°, 38', in the same state, was 50°, 17'. These temperatures he computes to be ten degrees, or a little more, below the European standard. From an observation of Kalm, on the heat of water from a deep well, in lat. 42°, between New-York and Albany, it would appear that the heat of water thereabout was 49°. This is five degrees colder than the temperature on Long Island, and eleven lower than the same latitude in Europe. The heat of water from the deepest wells near Philadelphia, lat. 39°, 56', is stated to be 52°, 5'; that is a degree and a half colder than at New-York, and about ten degrees cooler than Europe. This is probably owing to its greater distance from the ocean."

As in the construction of ice-houses, the warmth of the earth is to be guarded against, we may add later testimony than that of Dr. Mitchill, but corroborating his views. Harper's Family Library, (No. XIV,) contains a volume on the "Polar Seas and Regions," and in the first chapter on "the climate of the Polar regions," p. 15, we quote as follows:

"Copious springs which percolate the bowels of the earth, and rapidly convey the impressions of subterranean heat to the surface, will consequently furnish the most accurate reports of the natural register of climate. These, if rightly chosen, differ not sensibly in their temperature at all seasons, and whether they have their seat at a depth of one hundred or of five hundred feet, they affect the thermometer alike."

To this quotation is appended the following note:

"The celebrated fountain of Vaucluse, situate in the latitude of 43°, 55', and 360 feet above the level of the Mediterranean sea, has been observed to acquire its highest temperature about the first day of September, and to reach the lowest at the beginning of April; the former being 56°, 3', and the latter 54°, 1', by Farenheit's scale; which gives 55°, 2', for its mean heat."

From the facts contained in the foregoing extracts, it will be observed that in the neighborhood of New-York, the temperature of spring and well water in summer, is 54 degrees of Farenheit's thermometer, and consequently the earth beneath the surface, and beyond the reach of the direct rays of the sun, has the same temperature, which is 22 degrees above the freezing point. This degree of heat will rapidly melt ice in any cavity, cellar or ice-house, where it comes in contact with the earth, air, wood, or stone, through which the heat is conveyed. Ice cannot therefore be preserved in a reservoir lined with wood or stone. It might be thought that the ice would impart its frigidity to the stone or earth surrounding it, and thereby be preserved from melting, but the paramount heat of 54 degrees will penetrate on all sides, and from the bottom, and reduce it to a fluid state. The melted ice soon absorbs heat, and rises to summer temperature of the earth, and adds more power to melt the congealed mass.

The heat of the earth south of New-York, may be something higher than 54 degrees, requiring greater precautions in guarding ice-houses from the intrusion of warmth. Farther north or inland from the sea coast, it may be less, as in latitude 42° on the Hudson river, it is 49°, which is seventeen degrees above freezing, and sufficiently warm to be capable of melting ice. We must calculate also, that in summer the heat penetrates the surface of the earth from two to three feet, or as deep as the frosts of winter penetrate. Hence the layer of ice near the surface, in an ice-house, is subjected to a greater degree of heat than 54, from the upper surface of the earth around it.

In constructing an ice-house, therefore, these data must be kept in view. If it be built under ground, it must have a sandy bottom to absorb the water which settles from the melted ice, for after all the precautions taken, a portion will become liquid. If the bottom be a hard-pan, or clay, or any kind of soil retentive of water, there must be a drain to carry off the ice that melts. The same precautions must be taken as to the bottom, if built above ground. Neither should have a plank or tight wooden floor. Pieces of timber should be laid on the ground, and cross pieces or rails over them, so as to be raised ten or twelve inches from the earth. On these rails are to be placed some non-conducting substance from four to six inches thick. Small limbs of pine or cedar trees, or any kind of straw, are adapted to this purpose.

The frame timbers of an ice-house under ground, should be large enough to allow of hollow walls from eight to twelve inches thick, which should be filled with charcoal, tanner's bark, straw, or chaff, whichever may be most easily or cheaply obtained. Charcoal is here too much in demand for other purposes, and too expensive. In those parts of the country where there are tanneries, spent tanner's bark may be easily and cheaply obtained, but it should be dry before it be introduced into the hollow walls of an ice-house. In all parts of the country, straw is most readily procured, and at the least expense. In the southern states, rice chaff is plentiful and cheap, and well adapted to the purpose.

An under ground ice-house is most usually raised two or three feet above the surface, and banked up with earth, sloping from the building to carry off the water descending from the roof in rainy weather. If not on a northern slope or exposure, it should be where there is a free circulation of air, or under the shade of a tree. The roof may be thatched with rye straw, as one of the best materials to prevent the heat of the sun from penetrating into the building. On the sea coast, the long salt grass called *sedge*, may be substituted, and in the interior and western states, the *tall prairie grass* will answer the same purpose. If there be a board or shingle roof, it should be *covered with tin*, or be *painted white*, or be *whitewashed with lime*, that the heat and rays of the sun may be reflected from it by the white surface, and not penetrate the roof.

As there must be an entrance, it should be on the northerly side, and as it will necessarily be opened to procure the daily supply of ice in summer, heat from the surrounding atmosphere will consequently be admitted notwithstanding the utmost precautions, and this heat being confined when the door is shut will rapidly melt the ice. Hence to obviate this difficulty, there should be small openings at opposite ends, that the air may draw through and diminish the heat over the ice. A small wooden chimney or ventilator, in addition, would still further protect the ice from melting. The chimney should have a cap to shed the falling rain. These are small affairs, but necessary, since in all undertakings the details must be understood, and carried out in practice, to insure success.

In the southern states, where the ground is low, and where the heat of summer is greater and longer continued than it is here, an ice-house would be more advantageously constructed above ground, on a side hill, where it can have an under ground drain, with a cool and shady exposure. There, or in any other part of the country, it may be built of rough timber, like a log house, made double, with a space of eighteen or twenty inches between the walls. This space to be filled with dry straw, rice chaff, or dry tanner's bark, packed down with the feet or a pounder. The space between the cross logs should also be stuffed with straw.

A layer of sand or gravel, eight or ten inches thick, should cover the bottom of an ice-house above ground. On the sand, place any rough pieces of timber, and cross them with others, that they may be raised ten or twelve inches above the sandy bottom. Then make a layer of pine or cedar limbs, and smooth off with straw, upon which the ice may be laid. Roof the building with rye straw or long grass, and dig a trench on the sides to carry off the falling rain water.

An ice-house above ground, should be larger than one under ground, as the heat of the atmosphere whatever it may be, in any given place, is greater than the temperature of the earth eight or ten feet beneath the surface. The greater the bulk of the cold body, the longer it will be before the heat above or below the surface, penetrates it. An ice-house on the surface, should also have thicker walls, and a greater body of straw, tan, or other slow conductor of heat, between the ice and external air. Hence such a building should not be less than eighteen or twenty feet square on the ground, and the body of ice within it, ten or twelve feet thick. The upper surface in all ice-houses, should also be covered with straw.

In filling an ice-house during the winter, the cakes should be laid close, and the crevices filled with snow or pounded ice, to exclude air as much as possible. Sometimes ice is porous and filled with small air holes, which with returning summer enlarge by expansion of the air within, and become cavities of water. That these may burst and the water exude before the quantity becomes large, it is thought to be advisable by some, to set the cakes on their edges. At the end of a day's labor in filling an ice-house, clean water may be thrown on the surface, which, freezing, helps to fill up the crevices in the ice, and to make it a compact body.

The foregoing remarks and directions will enable any discreet person to construct or build an ice-house in any part of the country where desirable, that will hold ice through the summer. The writer had one built under ground, on Staten Island, in 1840, about ten feet square, which held ice during the summer of 1841. It was roofed with boards and whitewashed. The labor and materials in constructing it, cost about twenty dollars. The winter of 1841-2, was so mild in this region, that ice could not be procured to fill it.

Richmond.

Oakland Farm, Staten Island, March 20, 1843.

P. S. In my communication to Solon Robinson, in the March No. of the Cultivator, page 50, the latitude of my residence was given to show that it was nearly in the same parallel with Lake county, in Indiana, where your valuable correspondent resides, and that the difference in *farming, east and west*, did not arise from difference of latitude. In the printed letter there is an error of ten degrees, arising from a typographical error, or a mistake in copying the manuscript. It should have been lat. 40°, 30', N.

In the February No., your correspondent Wm. Partridge, has called attention to the cultivation of the swamp willow, which is successfully raised in Richmond county. As the season advances, and I can have an opportunity to visit the owner of the plantation of willows, you may expect some information on the subject for a future number of your highly useful periodical. At present, the roads are blocked up with snow drifts from the late equinoctial storm, and unusual occurrence in these parts at this time of the year.

R.

* "Air is better fitted for diffusing than storing up heat."—*Polar Seas and Regions. No. XIV. of Harper's Family Library, page 16.*

BREEDING OF ANIMALS—PEDIGREE, &c.

We have received from a correspondent who signs himself "A Young Farmer," of Virginia, a communication of several sheets, on the subjects indicated above. While in many things we agree perfectly with the opinions expressed by the writer, there are others from which we as decidedly dissent, and which more experience and reflection will doubtless enable him to correct. As the length of the essay renders its insertion entire impracticable, we have concluded to give the substance of it in extracts, omitting those portions irrelevant to the subject, or which might be considered personal by others, and perhaps adding a few remarks of our own at the close.

After a few introductory paragraphs, giving a brief review of the financial condition of the country, and urging the necessity of examining the causes that have led to this state of things, as well as enforcing the duty of economy in management, and improvement in all the departments of agriculture, the writer goes on to say:

"I am a young farmer, and have for a few years bred Short Horns on a small scale, and write now with the view of having more light and information on the breeding of stock, rather than with the view of intruding my own opinions. From the remarks of some of your correspondents, and occasionally editorials, it appears to me a beginner has poor encouragement in trying to improve his stock. One writer asserts that if we begin with the common breed of cattle we shall never succeed in effecting improvement to any extent, and another that if we were to take the best common stock, and the best Short Horn bull, and breed for 20 years, we should be no nearer the object aimed at, than when we set out. If such is the fact, it affords poor consolation to those who in the laudable spirit of improvement, have been induced to give several hundred dollars for a Durham bull, since according to this theory, unless with the bull they have obtained the great secret or talisman of breeding, they may go on for 20 years, as an Irishman would say, without advancing a step."

The difficulty here, or the want of success which has attended the efforts of some breeders, our correspondent supposes to exist in the greater attention paid to pedigree than the real qualities of the animal, and illustrates his opinion by the following dialogue supposed to take place between a farmer who wishes to purchase stock, and a breeder, who has invited the farmer to pass through his yards and examine his improved stock:

"B. Here are some beautiful animals; just look at their pedigree; handle them, never mind their looks, walk around them, and tell me if you ever saw such a lot of animals: all Herd Book, selected with the greatest care from the finest herds in England, animals that have taken there the prizes for many years. *These* animals inherit *their* virtues they are *fixed*, and will descend to their offspring, for like will produce like."

"F. Well, but Mr. Breeder, stop; how is it with this bull here, of which the price is $1,000. You must admit he has a coarse head, is very hollow in the back, and is deficient in the rump; where does he get these defects, and will he not be apt to perpetuate them in his progeny, and carry them to his grave?"

"B. My dear sir, I see you are ignorant of the business of breeding; look at his pedigree. His grandsire the famous ————, was sold for one thousand pounds; I obtained the dam as a particular favor for $800, and was offered that sum for this very animal when he was a calf. Handle him; he is like satin. He is a superb bull; what an eye, what a fore arm, what a splendid brisket; all my cows are in calf by him, and you must permit me to say if you do not like him, you certainly do not know what you want."

"F. Excuse me, Mr. Breeder, I do not profess to know much about stock, and nothing about that Herd Book, though I have raised more or less stock for 40 years. I have a dairy of 60 cows, and hearing you had some fine animals, called to see them, and if possible to purchase a bull and two or three cows, to improve my own stock. But I am afraid your cows will not milk well, and indeed I do not like your bull. Have you no other stock, and at lower prices? Ah, yes; I see a fine large cow in the next yard, that the girl is milking, and what a pail of milk, some 30 quarts, and about to run over! Will you sell her?"

"B. Why sir, the stock in that yard are not my best stock, but only a few I retain to supply my family with milk and butter. I value them slightly since I have procured the improved stock. She is quiet, orderly, and a good breeder. Her two heifers stand in that corner, and the dairy woman says are nearly equal as milkers to their mother."

"F. I will give you $100 for the three; and if I can procure the sire of those heifers, I think I will dispense with the Herd Book and pedigree for the present."

"My object in this dialogue, is not to decry imported or improved cattle, but to enforce the opinion that cattle should be prized for their *intrinsic*, rather than *extrinsic* qualities. We have all known animals that would hardly be taken as a gift, command a high price solely on account of something written on a piece of paper, and called a pedigree, with high sounding names recorded in the Herd Book. We have known too, animals truly valuable, deep milkers, excellent feeders, condemned with a sneer solely on account of a black nose. Who has not known animals sell for $50, which if they had had pedigrees, would have brought $500? In old times, the proof of the pudding used to be in the eating; the proof of the cow in the pail; and that of the bullock inside of him. It is this question of real value in different breeds that requires examination. Farmers do not love to be led away by mere names; truth is what they need.

"If a number of eminent men, by giving their minds to the subject, and by careful selection and skillful breeding through a long course of years, have at last succeeded in *fastening* upon a stock certain excellencies of shape and of properties, which will be of course imparted to their progeny if they are unrivaled for the pail or the shambles, then it would be unreasonable to complain of the great outlay necessary to secure their advantages for our herds. The Short Horns, as a race, are no doubt entitled to their high reputation, as combining more valuable qualities than any other breed. These qualities are transmitted by the *pure bloods* to their issue, while that result would be uncertain from part blood. Now what is a pure blood Short Horn? To the improver of stock this is an important question. It must be admitted that the Durham is a made up breed; that is, one based on common stock and skillfully bred up to its present perfection. No one pretends, that as it exists at present, it is an original breed. A pure bred Short Horn, I suppose is one who has so many crosses in him, that the valuable qualities of the breed are permanent, and there is no danger of breeding back to the original ancestry; and to determine this point is said to be the great value of pedigree and the Herd Book. Now I want to know if an animal is coarse and ill made, how much better he is for having a pedigree, and being in the Herd Book? It appears to me from what little experience I have had, that in this case the pedigree detracts from, instead of adding to his value. Where did he get his bad points? Probably from some of his ancestors, for he is so pure bred that they cannot be traced to the common stock, and if so, does not the pedigree fasten the defects on him, and make it more than likely he will transmit them to his progeny? Is he not more likely to breed bad stock than a part bred bull would be, of better shape, if the latter were home raised, and bred with care and judgment? Are we not too apt to be satisfied with a pedigree, without considering that there is such a thing as a *good pedigree*, and such a thing as a *bad one*? * * *

"It will scarcely be denied by any, man who is acquainted with the various importations of cattle from England within the last 10 or 15 years, that some of them with long tailed pedigrees, are not the exclusive possessors of great beauty and excellence; that neither Herd Book or pedigree is a certain test of superiority; that some have disgraced their owners and breeders, and in all probability only saved from the knife by their relation to English aristocracy. If an animal commands a high price, it ought to be because of some intrinsic excellence, some positive merit, some palpable superiority. Much is said of white and black noses, color, &c., but are these of any consequence any farther than they represent or indicate quality or merit? So pedigree, I maintain, has no value in itself, unless accompanied with something better. * * * * * * *

"I very much fear that in some instances in which high prices have been paid for Short Horns, we have been paying not for the animal, but for the pedigree, which when paid for, was often worth but little. I cannot help thinking that in this Short Horn excitement, there is something of the tulip mania in Holland. or the multicaulis fever of our own country. May I not venture to predict that similar results will ensue with the first as with the last; indeed it is not perhaps too much to say that in this country, high blown pedigrees, and $500 animals, are sleeping "that sleep that knows no waking." It may be said, that in England prices are nearly as high for the improved Short Horns as at their first introduction, and that the demand for them is continually increasing and keeping up the price. It is enough to answer that *there* wealth is concentrated in a few, and labor performed by the many, and between these two classes there is a much wider and more distinct separation than in this country. *There* a monopoly of any favorite or fashionable breed is easily effected; *here* it would be impossible. There to buy an animal of Lord A., the celebrated Earl of B., or the noble Duke of C., gives both buyer and beast no little eclat, and the name of the breeder covers a multitude of sins. Here we are such good republicans, that we care but little whether we purchase of a rich or poor man, provided the animals please us. Prices are, and must be regulated by the facility of supply and extent of demand. The ground work or basis of the one can be easily come at; the latter will depend ultimately on the actual and intrinsic worth. In carving into a juicy sirloin, or in tasting butter, we care nothing for pedigree, or for native or imported cattle. The butcher and the dairy maid must be the judges at last of the value of breeds, and a decision built up against their verdict must in the end come to nothing.

"The result of my own observations is, that with some exceptions, as a dairy stock, the Short Horns are more valuable for the *purpose of crossing*, than for their own capacity for milk and butter. Their *history* shows that these were lost sight of by the early breeders, in their endeavors to obtain other desiderata, large size, early maturity, combined with neatness of form, and facility of fattening. That they possess these in an eminent degree, no one can doubt; and that certain families of them are good milkers, and at the same time retain *some* of these valuable qualities of the breed, my own experience has satisfied me. I believe milk can be bred into them, by the exercise of care and skill, but where this is the case, some of the points otherwise desirable, must be sacrificed. Among my full bred Durhams are some extraordinary milkers, but they were purchased for me under directions to pay attention to this quality particularly, and to consider all other points as secondary, and they would probably be condemned by the professional amateur. Every person knows there is an inconsistency in supposing that the easy taking on flesh, barrel shaped, square, heavy thighed Durham, can be a deep milker. Can we expect a deep milker without a capacious udder, and is there room between the thighs of the thick fleshed Durham to carry such a bag? My opinion then is, that the Durhams as a breed are not milkers, and that the exceptions only go to prove the rule. To say that it will not do to cross the Durham with our common stock, appears to me preposterous, and is contradicted by experience already. If we live in a dairy district, let us purchase the best common stock, deep milkers, that we can find. Select a pure bred Durham bull, if possible, descended from a milking dam, or procure a bull whose offspring have already proved to be milkers. Let us be content with a flatter rib and lighter thigh, and be satisfied if we can engraft on the progeny the early maturity and neat form of the Durham, with the milking properties of the dam. * * * * * * * * *

"One of the improved methods of judging animals, of recent introduction at least in this country, is the point called *handling*. This is defined to be a certain indefinable, peculiar, soft, delicate, fine, elastic touch or feeling of the cellular membrane, indicating great excellence. It is now admitted to be the most important and essential of all criteria of judgment, and however well shaped and promising an animal may be in other respects, if he is deficient in this point, it is the "unpardonable sin." I have known experienced breeders pass by with contempt the most faultless shape, after merely touching them in one or two places with their fingers. It is openly avowed that daylight is not necessary to view stock, feeling being substituted for seeing. As I am a young farmer, and anxious to be informed on all matters relating to breeding stock, I have tried to be a *handler*, and to learn from older and wiser heads what *good handling* indicates. I am told by one, "that mellow handling shows a kind and easy feeder, that will mature early, and on a small consumption of food." If told that experience shows that there are many harsh handlers that both feed easy and mature early, we are answered "that good handling only indicates *better* feeders." But will the butcher pass by unnoticed, those fine animals with the beef placed on the most profitable points for cutting, to purchase those who have been bred solely with reference to handling? The answer is, he will find the latter to be the best inside, the flesh will be better mixed with the fat. And this introduces the question, whether the Short Horns are the best breed for beef. In the Smithfield market pure Short Horn beef is not ranked in the first class, it having too much muscle unmixed with fat. In this country, the butchers greatly prefer half or three quarter blood, that is, one or two crosses of Durham on the native stock. They have better proof; yield more tender and saleable meat; and the flesh is more intermixed or marbled with fat. The crosses too have generally outweighed the full breeds. The fine animals of Tonkins, in New Jersey, were not more than three-fourths Durham blood. A judicious selection of some of the best common stock crossed once or twice with the Short Horn bull, appears to make just such an animal as is wanted by the butcher, and one that will generally be preferred by him to the pure blood.

"Another breeder has urged upon me the importance of *handling* as an evidence of good milking properties; but I satisfied him there is no necessary connection between them, by showing him in my yard a couple of cows making nearly 30 lbs. of butter a week, who he said handled like buffaloes; and in another case, a superb handler, that could not raise her own calf. A third person has said that good handlers are of gentle disposition, quiet and tractable, which has been contradicted by my experience.

"What then is handling, what does it mean? If it would not be too presuming in a 'Young Farmer,' I should say, that in forming an opinion as to the beauty or excellence of an animal, there are many points to be looked at and considered, that these are balanced against each other, and since no animal is perfect, that one in which the greatest number of good points predominates, is the best, and that among these points handling is one; but I cannot consider it as every thing, or of more consequence than all others. An animal good in other respects, is not to be condemned for a rather heavy head, a too flat rib, or a defective rump, neither should they be for harsh handling alone.

"These remarks have been made more with the view of eliciting a correct understanding of the subject from those better able to give it than myself, more with a view to inquire than instruct. The things stated are such as appear to me would strike any one young and inexperienced; and I hope these apparent inconsistencies in determining the value of cattle, which have been noticed, may be susceptible of explanation. My only object is to promote the public benefit, and if the views here presented are correct, however it may affect the interests of other breeders, the effect will not fall lightly on the pocket of A Young Farmer."

We have but a single remark to make in this place, on the foregoing, and that is in reference to what he says as to our affording poor encouragement to efforts for improving our domestic animals, in our "occasional editorials." We must have been truly unfortunate in expressing ourselves, if we have said one word that could be construed into a discouragement of effort; for we are firm believers not only in the propriety, but in the prac-

ticability of further improvement in our domestic animals; and we are the advocates of the introduction and dissemination of the best foreign animals, of undisputed pedigree and Herd Book standing, because in such we have the most ready and certain means of improvement prepared at our hands. We like the improved Short Horns and Herefords, because the qualities for which they are deservedly famed, are invariably, so far as we have had an opportunity of observing, communicated to their progeny in a great degree, when crosses have taken place between them and the common stock of the country. We have deemed it unnecessary to undertake to produce from our native stock alone, by breeding and selection, a new breed, when we have ready at our hands animals in a farther state of advancement than we could expect to reach for years, with native stock as a starting point. Pedigree we prize as a proof that the good qualities are not accidental, but inherent and fixed; as enabling us to calculate in a great degree the result of any cross we may make in endeavoring to improve our stock. But we must dismiss the subject, inviting breeders to discuss the positions advanced by "A Young Farmer," and intending ourselves to return to it again in a short time.

SALT FOR STOCK—MEADOWS, &c.

Messrs. Editors—As the pasturing season is near, permit me to suggest the propriety of furnishing more salt for stock. Often in passing through the fields of our best farmers, the stock is so eager for salt as nearly to trample you down, and these men let it suffice to give salt once in six to ten days. Can stock thrive thus? Let each farmer furnish a trough, from 4 to 8 feet in length, as the stock may require, in each field; the trough to hold water in case of rain, that no salt be wasted. (The cattle will consume the water in the trough.) After salting them a little for three days, place the trough in the field in a suitable place, and keep it constantly supplied with salt, and let the animal decide how much and often it needs it to promote health. Need I say it adds to growth and fatness—let the farmer judge.

Manuring Meadows.—I see in the April No. information is wanted. I have a meadow on the flat land, rather moist to plow. Some eight years past, in consequence of having many laborers, this meadow was mown in July for two seasons. The third season I was surprised to find the grass much diminished in quantity; therefore deferred mowing it till the grass was matured; thus while curing it, some seed would fall as in former times, previous to the early cutting. In two or three years it was restored to its usual growth, which is about two tons per acre. I do not manure, nor plaster, nor water it. I turn in my fat cattle a few days in the fall, which is all it is pastured. My neighbors adjoining me, practice the old plan, stack the hay on the meadows, and feed it there. They say their meadows want manuring; their stock is grazing at every chance, and the result is they cut about 1½ tons per acre on as good land as mine; hence they are one season behind hand for fodder. Their stock feed off in winter what they should cut in summer; besides they have not that manure for the plow land. "*Judge ye which is best.*"

As this season is a tender time for cows, I would from experience recommend feeding milch cows with boiled oats—if not convenient, swell them with hot water; begin with two or three quarts, and increase the mess to ten or fourteen, as is consistent. It adds greatly to the quantity and quality of the milk, and vigor to the animal.

Dutchess Co., April 15, 1843. T. G. Wheeler.

WASHING SHEEP, &c.

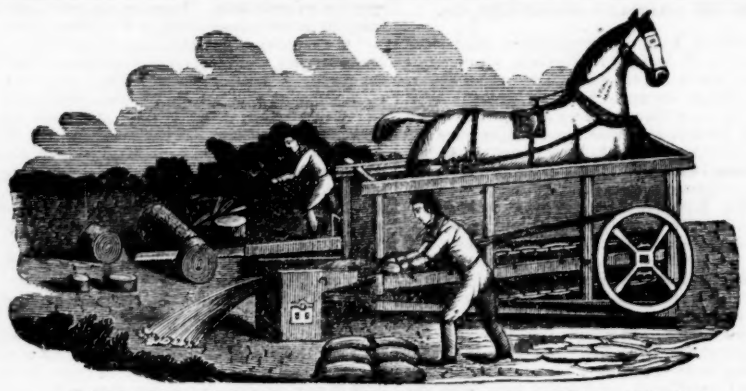
Messrs. Editors—With your approbation, I will venture to intrude upon the public my method of washing sheep. I build my sheep yard by the shore of the lake, in such a manner as will be most convenient to catch the sheep in. The sheep having been tagged, (generally about the first of April,) some by the time for washing will begin to get dirty; it is therefore necessary that such should be tagged again. I have one man in the yard to catch and tag for two or three to wash. I have seen some so careless as to drag the sheep in the water on their backs, or any way to get them in. Such practice is very wrong, as well as a very hard way to handle sheep. The easiest way is to take the sheep up and carry it. By dragging a sheep into the water, the sand and gravel get into the wool, where much of it will remain, to the great annoyance of the shears when the sheep comes to be shorn, besides injuring the sale of the wool. The sheep should be caught by a man in the yard, carried to the edge of the water, and there held upon a bench or stool until the washer is ready to take it. The washer then carries the sheep into the water to a suitable depth to perform the operation; having squeezed the wool sufficiently in the water, he leads the sheep gently to the shore, and then finishes the operation by squeezing the water out of the wool as much as possible. In this I have a double purpose: first, if any filth remains in the wool after washing in the water, more can be squeezed out than will naturally drain out; and second, by squeezing the water from the wool, the sheep is relieved of a heavy burden which otherwise would cause it to tumble down in the mud, sand or gravel, in running off, which is often the case when let go with the water in the wool. In such cases they need to be taken up, carried into the water and washed again.

Now if the water is squeezed from the wool, the sheep may go away with much more ease than when loaded with water. In this way I have been able to cleanse my my wool in such a manner that it suffers in comparison with no lot of wool that I have ever seen. I would farther state that the sheep should not be suffered to run upon plowed ground or among black logs and stumps after washing, until they are shorn.

In marking, docking, and castrating lambs, a cold day is to be preferred to a warm one, as in warm weather there is danger of bleeding too much: sometimes I have known them bleed to death. Tar cannot be too highly recommended with which to besmear sheep's noses after shearing. It should be repeated once or twice through the season. It prevents distempers, keeps off the maggot fly, and promotes the health of the sheep. I have sometimes given them tar, sulphur and salt, mixed and fed in troughs, with good success.

I was a little disappointed in not seeing more Merino sheep at your State Fair, last Sept. Perhaps it may in part be accounted for in this way. Those beautiful South Downs and noble Leicesters and Cotswolds, must in all probability take the place of the fine wooled sheep about the large market towns and upon the banks of the Hudson generally, where the growing of good mutton must be more profitable than growing wool exclusively; and leave the Merinoes to the back towns and interior. The Saxons present, were beautiful sheep, though not large. Other parts of your state, I presume, would have presented a better display of Merino sheep. If not, I shall petition to have the Green Mountain boys admitted to come down and compete with their brethren of the Empire State with their Merinoes, weighing 160 lbs., and shearing from 12 to 14 lbs. of fine clean wool. The exhibition of Durham and other neat stock, together with an almost innumerable variety of domestic articles, was worth the while of any lover of his country to travel a hundred miles to view. J. N. Smith.

Chimney Point, Vt., April 19, 1843.



BADGER'S ONE HORSE POWER THRESHING MACHINE.—(Fig. 49.)

CULTURE OF WHEAT, PEAS, &c.

Messrs. Editors—"Commentator," in his remarks on the Jan. No. of the Cultivator, condemns the practice of "cultivating the same field two successive years in wheat," and he asserts that in every instance within his knowledge, "the second crop was vastly inferior to the first." It is no part of my design to advocate the cultivation of "wheat after wheat," as a desirable practice in *general*, or to doubt the correctness of his own observations, but to say that good crops have *sometimes* been obtained after the above method, scarcely inferior to the first, I will briefly relate my own experience. Some years since, I harvested and threshed from a field containing less than two and a half acres, 63 bushels of winter wheat. As it was a matter of convenience, and being withal a little curious to know the result of so wide a departure from what was generally thought correct farming, I prepared the ground in my usual manner, and put in for a second crop. In due time harvest came with a yield but one bushel less in amount than the first crop, and of excellent quality. Now for the rest of the story. A third crop was attempted from the same field. This was pressing the matter too far; less than half the first amount was obtained.

Culture of Peas.—This is a crop I have seldom attempted to raise, but from the experience of the last two years, am inclined to place a higher value on it than formerly. Having obtained a quantity of medium sized peas, (not marrowfats of course,) which were said to be very prolific, I made the trial as follows:—The ground a coarse gravel, or rather stony, in good heart, preceding crop oats, no manure for several years, plowed once, harrowed before sowing and both ways after, followed by the roller, seed sown at the rate of about four bushels per acre. Threshed as soon as gathered; produce 21 bushels; quantity of land sown fifty-five one-hundredths of an acre. This considerably exceeds the premium crop of George White, at the last Fair of the State Society.

Giving Credit, &c.—As a general rule the less a farmer has to do with giving or obtaining credit, the better. There is a wide difference between expending our income in advance, and after receiving it. But in one case credit should always be given,—that to which you allude in your last number—by acknowledging the source when articles are copied from other papers. By the way, neighbor E. remarked the other day in pleasantry, that I had not given *him* due credit in the brief account of my new watering place, as I but followed the example set by him. Very true, he was before me in this matter. Yours respectfully, G. Butler.

BADGER'S HORSE POWER THRESHING MACHINE.
(See Fig. 49.)

Messrs. Gaylord & Tucker—Herewith I send you a cut of O. Badger's One Horse Power, as manufactured by Hussey & Burgess, Auburn, N. Y., for insertion in the Cultivator. These powers are considered superior to any now in use. It has no chain proper, but is an endless floor, composed of a series of iron plates, held together and supported by strong wrought iron links, and revolving over strong cog wheels at each end, and supported above and below by two rows of cast iron friction wheels. This Power is small and compact; only two feet wide by ten and a half long, and can be easily carried in a common wagon. It will thresh from fifty to seventy-five bushels per day, with one horse and two hands, and with a change of horses will do much more. When applied to a circular saw, it will saw a cord of hard wood in fifteen minutes; and at a trifling expense can be made to work a cross cut saw to saw logs of the largest size. It is well adapted for driving any kind of machinery where a small power is required. (For price, &c. see advertisement in this paper.) Thos. R. Hussy.

Auburn, May 20, 1843.

LETTER FROM NOVA SCOTIA.

Messrs. Editors—The January and February Nos. of the Cultivator have come to hand, and are quite equal if not superior to my expectations.

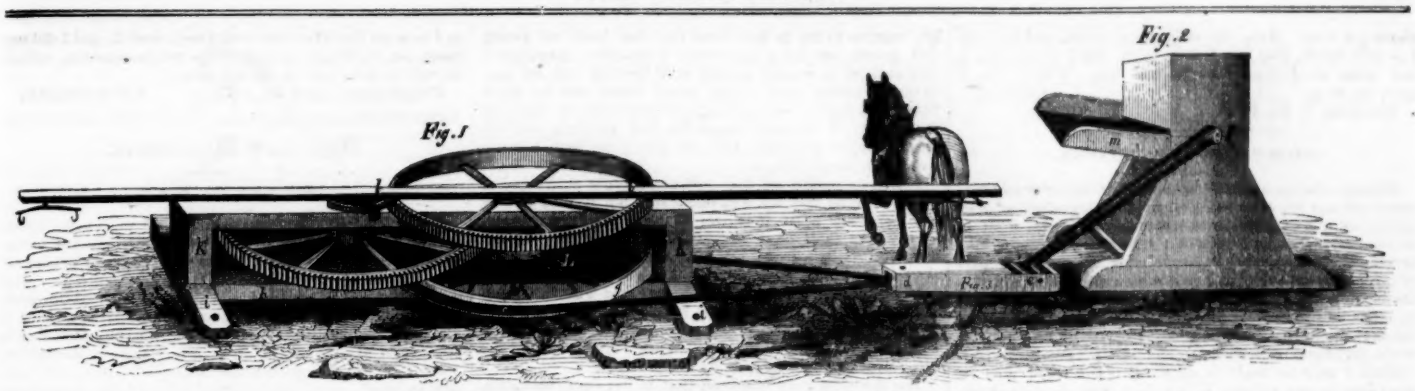
It really astonishes me, that men who pretend to farm it, should disregard or discourage so useful a paper, for it is the same to an agriculturist that a Medical Journal is to a physician, or a political paper is to the politician, &c. For what medical man would pretend to offer the best scientific advice, or operate agreeably to the latest improvements in surgery, if, after he left college, never read a new publication. And where is the politician who would rise in the legislative halls and discuss political economy, &c., without first making himself acquainted with the constitution of his country and the political intelligence of the day. Why, Messrs. Editors, he would be called a novice, and very justly; and what view must we take of a farmer who will plod along in some old beaten or worn out path, adhering to customs and superstitions long since thrown aside by the more learned and scientific of the present day.

Agricultural periodicals are, I conceive, greatly misunderstood by the farmers, for instead of their being devoted to the promulgation of wild theoretical notions, they contain real practical knowledge, obtained by theory and research, and that same kind of information that those ignorant men think they get from performing the practical operations of the farm, with this difference that the former is more correct. Few men, keeping in view their reputation, would hazard theory or attempt to erect a superstructure, without first testing it by analysis and practice.

With us, at the present time, there is much to condemn, and I regret to say but little to admire.

I know farmers who can never expect to fill any office of honor or emolument in the councils of the country, paying their four and five dollars for a paltry political paper, (Am. journals seem to aim more at the destruction of private character, than advance the public good,) half filled with advertisements of rum, merchandise, &c., and the other part written in a style only befitting a billingsgate scribbler, than pay *One Dollar* for a practical agricultural journal, containing all useful and necessary information upon the profession they follow, to obtain the good things of this world, for no man can have a greater variety than a scientific, practical, industrious, economical farmer. To show the state of our Province in this respect, I will just mention that in one of the most populous counties, and peculiarly an agricultural district, in 1840, about £200 was paid for political, religious and other journals, and at the same time only *three pounds* for agricultural information. The fact needs no comment; the absurdity is too plain not to be readily perceived. A better state of things now exists, but far behind what they should be. As I have filled my sheet, I will take another opportunity to write you the mode of farming in vogue with us, and point out some of its observations, and notice some recent improvements. Yours, &c.

Nova Scotia, Feb. 28, 1843. "Old Nova."



WARREN'S HORSE POWER AND THRESHING MACHINE.—(Fig. 50.)

WARREN'S HORSE POWER, &c.

MESSRS. EDITORS—In consequence of the absence from the city of the former "exclusive agent" for "Warren's Patent Improved Horse Power and Threshing Machines," the notice respecting them by your correspondent in the January No. of your valuable paper, (W. R. P., Bowling Green, Wood co., O.,) did not come under his observation until his return last month; since which time a drawing of each machine has been made, for the purpose of enabling any one to understand a description.

The above drawing represents a Two Horse Power (fig. 1,) and Threshing Machine, (fig. 2,) and it will be observed that either one or two horses can be used. These machines are so constructed and adapted for each other by their gearing, that greater motion for the Thresher is obtained with less power than any we have ever known. The cylinder of the Thresher has wrought iron beaters, instead of spikes, placed into it secure and stationary; the concave is formed with wrought iron bars. The pulley (F.) of the Thresher is only 4 inches, and that of the Horse Power is 30 inches in diameter.

The revolutions of the Thresher are about 1500 per minute; allowing the horse to walk his circle at the rate of three times per minute, which is not much more than two miles per hour.

The power necessary to thresh thoroughly is greatly diminished inasmuch as the straw passes through with so great velocity and principally unbroken, that when properly fed, the speed of the Thresher is not materially affected, as spike machines must necessarily be in the act of breaking the straw.

It was a misfortune the last season, for lack of experience, to have made and sold several Horse Powers from patterns not sufficiently heavy, and consequently disappointment was caused in some cases; probably your correspondent from Virginia was one, mentioned by you in the April Cultivator; but whenever we have been duly apprised of such misfortune, it has been our pleasure to repair the injury.

Having therefore learned by experience, we caused new patterns to be made in the soonest possible time, and the machines made from them have given universal satisfaction; so that now no apprehension of difficulty need be felt, even if four horses should be attached to the lever, as might be required for purposes other than threshing.

In the last No. of the Cultivator, we observe your mention of a correspondent, (E. B. Princeton, Ill.) in reference to using "Warren's Horse Power" with "Hussey's Corn and Cob Crusher,"—and you are undoubtedly correct in saying they can be worked together. In the January No. of the Cultivator, a drawing and description of Hussey's machine may be seen. To give the required velocity, it is only necessary to alter the dimensions of the pulley of our Horse Power, which can be easily done whenever required.

The following statement, recently made by a gentleman in Pennsylvania, in a letter to his friend, is in strict accordance with numerous attestations which come to us by written communication as well as verbal, from those who speak from experience; and to be fully convinced of the correctness thereof, it would only be necessary for any one to see the machines in operation a few moments.

He writes, "He has the two in use," &c. and speaking of their advantages, &c. he says among them are, "leaving the straw in a great measure unbroken, and throwing the largest and heaviest grain farthest from the Thresher, thereby enabling the farmer to gather his *seed grain* without any extra labor or trouble," &c. He continues:—"*When the operator once becomes familiar with the proper mode of using the Thresher,* as much grain can be threshed in a day with the labor of two horses, a man and a boy, as is usually threshed by the ordinary machines, with four horses and six or eight hands." At the close, he recommends them as being "well adapted to the wants of farmers who do not have much assistance."

A letter from a gentleman in Virginia, just received, says—"Your machine got here entirely too late to be of any use to me this spring, consequently I was disappointed; for I had got out my oats, and had none remaining to try the machine with. However, as soon as I could get a band, I put it in successful operation, using rye, and it far exceeded my expectations in its performance; and if it will only get out wheat as well and as fast as it did rye, and that an inferior article, it will give universal satisfaction. The draft is easier than any machine I have ever seen." (See advertisement.)

BOSTWICK & PLANT, 58 Water st.

New-York, May 15, 1843.

THE SILK BUSINESS.

THE following communication is from the gentleman who exhibited the beautiful specimens of cocoons and reeled and manufactured silk, at the State Fair held in this city last autumn, and to whom was awarded most of the Society's prizes on those articles:

ON SILK WORM EGGS.—The large Nankin colored peanut, from a healthy stock, there is no doubt on my mind, are worth for feeding much more than any other variety at present in this country.

I have fed them for two years in succession, and shall hereafter use no other kind, unless I greatly change my mind. The silk I believe to be equally good, and the cocoons reel quite as readily and well as the common peanut; there is less trouble in gathering the cocoons, handling, &c. I have been surprised that this variety has obtained no greater notoriety. They will most assuredly supersede all others when their true value shall come to be estimated.

Two years since, was the first of my feeding this kind for the purpose of ascertaining their value. I counted out 900 of such cocoons as had been laid aside for seed, which the millers did not perforate, being dead of course, the cocoons could not therefore have been of the best quality, yet they reeled 5 ounces of excellent silk. The same number of common peanut cocoons, selected from a good parcel, reeled 4 ounces; the same number of sulphur, selected, yielded the same, and the Italian white, same number selected, reeled very nearly the same amount.

According to this experiment, the Nankin colored silk worm produces one-fifth more silk than the other varieties, and what I have since had occasion to observe, fully confirms the truth of their superiority. The silk growers might therefore better purchase this description of eggs at five or even ten dollars per ounce, for profitable feeding, than receive *most kinds that are being used as a gift.*

I know it is said that a bushel of common peanut cocoons will yield more reeled silk, and weigh more per bushel, than any other kind. Admit it; and good reason why. There are about 4,000 cocoons to the bushel; whereas the Nankin colored requires only about 2300 or 2400 to fill the bushel, and can be raised, picked and flossed, with little more than half the trouble and expense; 4,000 of the Nankin will yield over one-fifth more silk certainly: 4,000 sulphur worms will produde just about as much silk as the common peanut. 4,000 of the Nankin colored peanut will weigh more than any other kind I ever saw. The sulphur will weigh more than the common peanut, and is probably more healthy withal.

SHELVES AND FEEDING.—The following directions for making shelves and feeding and managing silk worms, is believed, by an individual who has had several years of practical experience, to be of much importance to the silk grower. It has at least simplicity, cheapness and convenience to the operator, if not the health and productiveness of the insect for its recommendation.

The frames of the shelves should be six feet long, and from three to four broad; they may be made of common pine boards sawed into strips about 2½ inches wide; set the pieces of which the frames are to be made, up edgewise, halving the stuff at the ends which are to be joined together, and a nail driven into each piece will hold them sufficiently firm; mason's common lath should then be nailed across the bottom of the frame, from 2½ to 3 inches apart, and the shelf is ready for use. A common pine plank sawed through the middle both ways, will make four upright pieces, which should be placed in a row six feet apart, to suit the length of the building; one end of the uprights to be nailed firmly to the floor, and the other to a cross piece over head. Nail the cleets upon which the frames are to rest to the uprights, the first two feet from the floor, the others, sufficient in number for four or five tier of shelves, one above the other, from 15 to 18 inches apart; the latter distance is much to be preferred where there is sufficient room.

The frames may now be placed in their proper position between the uprights, resting upon the cleets, and a sufficient quantity of clean, straight straw, placed upon them to prevent the worms from falling through. Each of these frames will afford sufficient space for about 1,500 worms.

Mr. E. Morris, editor of the Silk Record, Burlington, N. T., an individual entitled to much credit for his praiseworthy efforts for the advancement of silk culture, was, I believe, the first in this country who recommended feeding upon open shelves, of his own invention, of which the above may perhaps be considered a modification. He directed the worms to be fed on papers placed on tables, boards, &c., until their last moulting, and then to be placed upon the straw shelves, where they were to be fed until they spun their cocoons. This I consider a great error. I would reccommend as a matter of great importance, that the papers holding the young worms be transferred to the shelves within a day or two from the time they are hatched, so that the air from below may have a chance to dry the litter and prevent it from becoming sour and moldy. This may be considered of vast importance to the health of the young worm, which if once deranged, there is little reason to believe will ever be restored.

The worms should be fed on papers placed upon the straw, until their last moulting; after which, the papers, together with the litter, should be cleared away, and the worms spread equally over the whole surface of the shelf. Removing the litter twice from worms fed according to the above directions, would be equivalent to removing it four if not six times in the ordinary way.

After the worms are prepared for spinning their cocoons, which would be readily observed by an experienced feeder, five bundles of straw, about 20 inches in length and 4 inches in diameter, tightly bound with twine near one end, may be placed on each shelf, the end nearest the band on the shelf below, while the other is widely spread against the bottom of the shelf above. These five sheaves will receive and accommodate all of the worms that may be disposed to spin for the first two or three days, and will not litter the shelves so as to prevent the free circulation of air, or interfere with the convenience of feeding the residue of the worms not yet disposed for winding. After about one-half of the worms have mounted, for the accommodation of the remainder, oak branches and other green bushes may be used to fill up the intermediate spaces between the bundles of straw, which will afford ample room for all to wind. About four days from the time the last have wound their cocoons, the whole may be gathered, the shelves removed, and the old straw cleared away, the cocoonery well swept, and the shelves replaced, ready for another crop.

It is a matter of some importance in preparing the shelves, to have the bottom shelf four feet wide, and the succeeding ones above, made narrower, so that worms falling from the shelf above, may lodge on the one below, a distance not likely to injure them. The top shelf should be about three feet in width.

DAVID PALMER.

White Plains, Westchester co., N. Y.

REARING CALVES, &c.

MESSRS. GAYLORD & TUCKER—I maintain that the way nature points out for animals, is the most proper for them. At any rate, if a calf sucks from a cow half that she gives, it benefits him more than though the same be fed to him. Of this I am positive. We generally take a cow that gives a good mess, and let two calves suck her, and they frequently get quite fat with this chance, seem to wean better, winter better, and make thriftier cattle than those we never let suck. Around the bars of the calf pusture, you can easily make a pen with four or five boards and a few stakes; stick the stakes one or two inches apart; put a pin through them for the board to rest on, so high that the calves can run under them. Let me use this pen, and you may use your stool, and I will feed ten calves my way, quicker and better than you would two the old way, by milking and feeding in a pail; and I think my cows would give the most milk too. A couple of calves striving to get more milk every time, I think would have a tendency to increase the quantity, or else nature has not provided for this emergency as she has for other ones.

The Swivel principle, on the end of a flail staff, works well when fixed in a workmanlike manner. Let the bolt go well into the staff, with one horse nail just below the ferule, and another near the end, crossing this at right angles; bolt and head large; wire large also, and smooth, so as to have the string last well, with but little play

about the bolt. Hang the swingle up close, and perhaps you will think, like the fellow who tried mine after I had oiled it—I don't like it, said he. Why? Oh, it goes too easy. CEPHAS.

. Hannibal, N. Y., 1843.

SHORT AND LONG PLOWS.

MESSRS. GAYLORD & TUCKER—The Cultivator of 1841, pages 10 and 25, contains a long and interesting article, giving details of experiments made with plows both in this country and in England. Among the conclusions arrived at, it is stated that the shorter the working part of the plow, meaning that part which runs in the ground, the lighter will be the draft; one of the reasons of which is, it has less surface exposed to the friction of the earth; but that such plows must not be inferred to do the best work, lightness of draft being the only advantage gained. I think it may be made to appear that the work will be done best in one respect, if the plow is moderately short.

It is believed that two plows may be constructed, which, when driven at the same speed, shall turn the furrow equally well, and yet one may *pulverize* the soil better than the other. Of thi my observations have convinced me, when using different kinds of plows; and it is a point which should not be overlooked in discussions upon the correct form of this implement. None will dispute that the degree of pulverization is affected by the velocity with which the earth is moved; for every farmer knows that the same plow when drawn by a team of brisk horses, will break the furrow slice to a much finer powder than if the work is done by a pair of moping cattle. In comparing the operation of different plows, it will be found, I apprehend, that with a given height and rear breadth to the working part, a difference in the length of the same will influence the degree of pulverization. Because an increase of length gives it a more acute form; and as it passes forward, a longer time will be occupied in elevating or moving the earth to a given height or distance; consequently, the furrow slice will be lifted and thrown, with a slower, gentler motion, than if the working part were shorter and more obtuse. This may be illustrated by comparison with a wedge. The more acute the form of the wedge, the more slowly does the wood separate in proportion to the distance driven. If the working part of the plow in one instance is four feet in length, and in another part but two feet, the height and rear breadth of both being the same, each must pass its whole length before the furrow slice will be separated to an equal space from its bed; in doing which, the longer plow will take double the time, so the earth will be moved with one half the velocity. A short plow, therefore, by giving the soil a brisker motion, is a more efficient pulverizer; and besides, its more obtuse form makes it better fitted to break the furrow slice in pieces, by bending it upwards and from the land with greater abruptness. Furthermore, the superior lightness of draft favors pulverization, by encouraging the team to travel at a quicker pace. It is also evident that the more rapidly the earth is moved; the less liable it is to adhere to the mold-board; which is a point of importance on some soils, and is a source of solicitude on the western prairies.

If these views be correct, a short plow is better for the land as well as the team. And if the imported premium plow with a working part *four* feet in length, mentioned in the Cultivator of 1841, page 63, is to be regarded as one of the most approved specimens of British skill, it must be conceded that the Americans have fairly beaten their brethren on the other side of the water, in approximating the right form of the most indispensable of all farming implements. A. R. M'CORD.

La Grange, Dutchess co. N. Y., April 19, 1843.

DAIRY COWS.

MESSRS. GAYLORD & TUCKER—When I gave you a brief and verbal statement of what my Herefords were doing in milking, I did not tell you that they were all three year olds but two, one of those four, and the other seven. Nor did I say on what food they were living.

When my cows first came into winter quarters, (which was between the fifteenth and twentieth of November,) they were in *good store condition*, and nothing more. I commenced feeding them on rye straw and about a half bushel of swedish turneps per day, until within a fortnight of calving, when I put them ih a loose place to calve, gave them hay, and put the rye straw under them. (I purchased this straw at ten shillings per hundred bundles.) The second day I took the calves from them and sent them back to their stalls; fed them until this day on the same quantity of turneps as before; cut their hay into chaff, and added a little oatmeal.

I do not believe that meal of any description, given in the raw and dry state, is at all adapted for milking; therefore I am perfectly satisfied I have not done justice to them. Nor have I taken *all* the cream from the milk as I should have done, had I not fed my calves from it, to contend against Short Horns that have had new milk.

These things have to be taken into consideration, which every practical man will allow is a very great drawback on *butter making*.

Another thing, which is of still more importance. This is my first season of entering on the farm; all the hay that I grew was upon six acres, and that an inferior crop, grown on an impoverished soil. I had to feed fifty-three head of cattle, four horses, and one hundred and fifteen Cotswold sheep; therefore you may well suppose I had a great deal of provender to purchase. I went to the hay market to try to find some that had been cut young and green, but not a load could I procure; therefore I was obliged to content myself with feeding old cut hay, as dry as barley chaff, and if much butter can be made from such feed, I will pay a good premium to discover the secret. I am no advocate for *high* keeping, but this winter I have kept my cattle and sheep too low; there is a medium in all things.

Notwithstanding all this, you shall know at the end of the year what they do, and that *truly*; but it will not be any criterion what they *can do* with *proper treatment*, which they shall have another season. If they do not deserve credit, I do not ask it. All the *puffs and exaltations in the world, from a pen*, will have no avail if the "*breed*" cannot speak for themselves and sustain it.

I thank Mr. Norton for his kind wishes for my success, and glory in seeing the statement he has made; it is a good yield for cows *of any breed*. I want to see the Short Horn dairymen *come up to the mark*.

But the *milk story* is not all that is required in cattle. I think the yoke and the shambles of more importance. When the *best quality* of beef can be sold in market, at seven cents per pound, and a cow will lay on three pounds of beef while she is making one pound of butter on the same feed, (or probably more,) and with less trouble and expense. And if a breed of cattle can be produced that will combine quality of beef fed on less food than any other, the most active working oxen, *and can contend against any other breed* for milking, I say give me that breed. I am willing to "*stand a brush*" with the Herefords, without "*bravado*."

Yours sincerely, W. H. SOTHAM.

Hereford Hall, near Albany, May 8, 1843.

TO THE STOCK BREEDERS OF THE STATE OF NEW-YORK, OR ELSEWHERE.

I will enter for a Sweepstakes, ten dollars entry, a three quarter bred Short Horn Steer, 5 years old in May, 1843, fed while a calf on skimmed milk, and poorly at that; and after three months old, with nothing but grass and hay till three years old; and since then wintered on straw, with common pasture in summer. He has never been fed a bushel of grain or roots, and has run out doors. I will show him against any animal of *common* breed, at the State Fair in Rochester, in September next, to *prove* that *grade* Short Horns will bear hardship and rough keep equal to the native cattle, and retain their superiority of points. He was sired by a thorough bred Short Horn bull.

I will also show a two years old thorough bred Short Horn Heifer, kept in the same manner, except sucking her dam for four months, which run out in the straw yard through the late severe and long winter, against any *native* heifer of like age, (two years old, June. 1843,) and for the same sum. Both animals to be judged by one the Cattle committees selected by the Society.

LEWIS F. ALLEN.

Black Rock, May 6, 1843.

P. S. Any person wishing to compete with me in this challenge, will send notice to Luther Tucker, Esq. Secretary of the Society, Albany. It is understood that no animal thus exhibited, is to be fed any thing but grass in good pasture. Will the several agricultural papers in of the state, please copy the above.

BOMMER'S MANURE.

A Committee, consisting of Elias Hubbard, Esq. of Flatbush, F. L. Wyckoff of New Lotts, Michael Stryker of Flatlands, Henry S. Ditmas of Flatbush, and Johannes Lott, Jr. of Flatlands, appointed from a large company of farmers, assembled to examine Mr. G. Bommer's method for making manure by fermentation, on the premises of Garret Kouwenhoven, Esq. Flatlands, Long Island, respectfully report,

That after careful examination of a heap laid up on the 19th of April, and opened this afternoon, 3d of May, they most cheerfully acknowledge that the change produced upon the material used, far exceeded the most sanguine expectations, said materials consisting of straw, salt hay, &c. and presenting when opened, the appearance and smell of rich manure.

The committee farther report, that they also examined the book containing Mr. B.'s method, and are fully persuaded that the various ingredients used are all in themselves beneficial, and in their combination must produce the most favorable results. The committee most cordially commend the above method to the serious consideration of the farmers of Long Island. Signed by order of committee. ELIAS HUBBARD, *Ch'n.*

Flatlands, May 3, 1843.

LICE ON POULTRY.

MESSRS. EDITORS—I have seen a number of receipts in the Cultivator lately, for destroying hen lice. Any person that will try oil cake meal, according to the direction in one of the back numbers of the Cultivator, I think will not be troubled with them. I had a hen house last season, about 12 feet square, in which I kept 60 hens, the most of the time shut up, and the lice became so thick that I could not go into it without being almost covered with them. I took two quarts of oil meal, and sowed it with my hand, throwing it all about the house and nests, also up against the rafters and sides of the building, and I was not troubled with them afterwards. I used six quarts in the course of the summer—two quarts at each time—but I do not know but once would have answered, as I saw no lice after the first time I used it, and I did not clean out the house or nest in the whole summer, which should be done two or three times.

Poughkeepsie, April 18, 1843. A SUBSCRIBER.

Veterinary Department.

DISEASES OF HOGS.

"EDITORS OF THE CULTIVATOR—I wish some information in regard to a disease which has injured swine very much in this district of country. It attacks pigs of four to twelve weeks old, weaned or suckling. The symptoms are, a dropsical appearance of body, bloated, hams and shoulders wasted, dry cough, staring coat, &c. My pigs are part Berkshires from the Windsor Castle stock, and part Woburns from Dr. Martin's, Kentucky. They live in a five acre grass lot, sleep about the barn and in sheds, food altogether dry corn, and waste from cattle feeding. I use wheat straw for bedding all my stock. Perhaps some of your correspondents will be kind enough to enlighten me on the following questions. Is stable litter injurious to hogs or pigs? Is any kind of straw injurious to hogs at large, whether wet or dry? Will hogs put on *flesh* fastest and grow largest, confined or at large, if fed what they will eat? Will they *grow* as well fed on dry raw corn unsparingly as on any other food, economy aside? Is it as well to have sows fat at farrowing, provided you guard the pigs from smothering? Is oak or walnut saw-dust good to put on the ground floor of a stable? ISAAC HINCKLEY."

Audubon, Ill., April, 1843.

We hope some of our subscribers who may be acquainted with the disease of pigs noticed by Mr. H., will respond to his inquiry, and that also his closing queries may receive attention. Stable litter we have never found injurious to hogs, unless when accumulated in such masses as to heat. In that case hogs should never have their beds in it. Hogs should not have their beds under stables where they are liable to be wet with the urine, or the straw saturated with it. We have known bad results ensue from this cause. We have never known disease as the result of using any kind of straw. Hogs will grow largest, but not fat fastest, if allowed to run at large. From the researches of Sprengel and others, it would seem that corn will make *fat* faster than almost any other food, but *flesh* or muscle not so fast as some others therefore fed on corn alone hogs would not *grow* as fast as if other food were used. Experience proves that sows when too fat, do not succeed well as breeders, independent of the danger of smothering their young. We can conceive no objection to the use of saw-dust from the woods named by Mr. H.; on the contrary we think that great advantages result from the use of all saw-dust for littering stables.

BREAKING COLTS.

SOMEBODY has said, "there is no man wholly evil," and we are inclined to the opinion there is no animal wholly or irreclaimably vicious. Many are made nearly so by injudicious or brutal treatment, and the consequence of our own misconduct is charged upon the beast as instinctive or natural. The great secret in the management of all animals is gentleness; love, in this case at least, is more powerful than fear; and the animal soon learns that docility and submission go not unrewarded. Read, in Burkhardt or La Martine, the manner in which the Arabs treat their horses, rearing them among their children, and frequently dividing their last barley cake with them, and we cannot wonder that there are no vicious and unmanageable horses among them. The mares and foals not unfrequently occupy a part of the same tent with the family, and the children climb upon and fondle them without fear or injury. The affection and attachment between the Arab and his horse, is reciprocal; the animal meets him with a neigh of pleasure, and bows his head to receive the expected caress. And throughout the country, it will be found that the man who treats his horses and other animals with the most kindness and attention, has them most docile and manageable, and the most free from vicious propensities. The following, which we copy from a communication in the Union Agriculturist, written by Mr. Churchill, will better illustrate the effect of this law of kindness than any remarks of ours:

"My father, while I was young, kept a number of mares for raising colts, among which were two which we called pretty high strung; and the colts in that respect were generally after the mares. One in particular, after injuring two or three men in the neighborhood by throwing them, he sold to a horse dealer, who took it to Hartford, Conn., where it killed one negro, and nearly killed another in the same way, both noted for sticking to a horse's back. After these accidents, the driver sold the colt to go to the West Indies, where, as he said, there were plenty of negroes to kill. Having another colt of the same stock to break, my father was concluding to take strong measures to effect his object.

"I proposed trying more gentle means; told him that he had had his smart riders, that could jump from the ground on to the back of a wild colt without touching a hand, and get thrown as quick. 'Give me Dowd,' said I, (a young man equally as clumsy as myself, but cautious, cool, and withal kind to animals,) 'and the colt, and we will try what we can do.' After laughing at us to his satisfaction, and some importunity on my part, he consented.

"We took the colt into a smooth pasture, where it was familiar with every object, and led him around the pasture very gently; then, when standing, Dowd put his left arm over the colt's back, and let it feel some of his weight; stood a few minutes in that position, the colt quite uneasy at first, but soon became pacified by kind treatment. I then took hold of Dowd's ancle, when his foot was raised, and assisted him to place himself across the back of the colt. After remaining in this position some five or six minutes, he then gradually put his right leg over, and raised himself to a perpendicular position.

"We let the colt stand thus till it showed a disposition to walk forward. At first, it would take but one or two steps, but soon found that it could move with a man upon its back. In one hour's time, Dowd rode the colt to the house without difficulty. During the whole time, we were careful to treat the colt kindly; to make no sudden or quick motions to frighten it; and by all means not to vex it. This colt, though extremely spirited, proved a safe animal to ride. So much, we said, on our return to the house, for kind treatment; and so much I have found to be correct since in breaking colts, steers, or heifers. If an animal shows a disposition to fight, it must be conquered; after this is done effectually, kind treatment is the best."

The Garden and the Orchard.

THE PEACH TREE.

From Mr. Downing's new Catalogue, we select the following "Remarks," which he has attached to his list of Peaches. They should receive the attention of every grower of this delicious fruit:

"For beauty and delicious flavor, the Peach is acknowledged to be unsurpassed by any other fruit. Until within a few years its culture has been of the easiest and simplest kind in all parts of the Union south of the 43° of latitude. The most abundant crops were every where obtained in common orchards, and so congenial is the climate of the Middle States, that the finest seedling varieties were frequently seen springing up by the road sides and in the smallest cottage gardens. Of late years, owing to the appearance of *two diseases* in our orchards, the Peach has become comparatively short-lived and unproductive. These diseases are yet scarcely at all understood by the majority of cultivators. We therefore offer the following suggestions, with the knowledge, *that if appreciated and carried into practice, this fruit will be found as healthy, fine and productive in our gardens now, as at any previous period.*

"I. The Yellows is the greatest malady of the Peach. It affects the whole tree, and the seedlings reared from it are also more or less diseased in the same manner.

"II. The *Yellows* is a *contagious* disease, spreading from tree to tree gradually, and it may be propagated by grafting or budding from the infected specimens.

"III. This malady may be infallibly known by the following characteristics: a decidedly *yellowish color in the whole of the leaves* of the tree; *short and slender branches* growing here and there, *clothed with small, half-starved narrow leaves*, one-fourth or one-half the usual size; and mottled, small fruit of inferior quality ripening before the proper season.

"IV. A single tree with this disease will, by its contagious influence, gradually destroy a whole orchard of healthy trees. No pruning or mode of treatment, hitherto discovered, will restore to a healthy state a tree thoroughly diseased with the Yellows.

"V. It is absolutely necessary to *destroy all trees having the Yellows*, in order to insure a sound condition in a young plantation yet healthy. In small gardens, where there are diseased trees contiguous, the neighbors must be prevailed upon to enter into the plan; in farms, and larger places, it will generally be sufficient to destroy all victims of the Yellows on the premises, as the disease spreads slowly. In trees received from nurseries, there will frequently be found an infected subject, and it should be at once rooted up, and its place supplied by a healthy tree. It is much better to destroy a single tree, though young, at once, than by allowing it to stand, in the vain hope of its recovery, to spread disease among all in its neighborhood.

"If we direct our attention to this matter, we shall find in almost every neighborhood, a number of sickly and diseased trees, which, although worthless, are allowed still to occupy the ground. Very frequently an old and favorite tree, now *lean and jaundiced*, occupies, year after year, a corner of the garden, more from the recollection of the fine fruit it once bore, than from any present value. If we desire healthy and thriving Peach trees, all these diseased specimens, old or young, *must be entirely exterminated.* While these are allowed to stand in any garden disseminating a contagious disease on every side, it is idle to hope for healthy and long-lived trees.

"The second enemy to this tree, is the *Peach worm*, or borer. This insect (*Ægeria exitiosa,*) deposits its eggs in the soft part of the trunk, just at the surface of the ground. These, on becoming borers or grubs, perforate and consume the bark, and in time girdle and destroy the tree. To maintain an orchard in good health, so far as regards this insect, it is only necessary, every spring, to remove the earth for three or four inches at the base of the tree, and to cut out and destroy with the knife every one of the borers. Their presence is generally indicated by gum just below the surface of the ground, and a little practice will enable a man to go over an orchard of an acre in a day.

"The productiveness and longevity of the Peach tree, will be greatly promoted by shortening or pruning-in the extremities of the branches of bearing trees, from one to two feet in July, every year. This will keep the tree full of bearing buds and healthy wood."

INQUIRY—FRUIT TREES.

Messrs. Gaylord & Tucker—Can your friend Thomas, or any of our horticulturists, inform us of a sure and effectual way of preserving young fruit trees, during winter, from the outrageous depredations committed by the mice, which we call the meadow mole? We, in this section of country, sustain very many losses in consequence of these little depredators, which run about on the surface of the ground, under the snow, in the winter, and eat off the bark for several inches, so that all effort to save the tree is ineffectual. I prepared a small nursery last year, and in the summer inoculated with the choicest fruit; but scarcely a tree is now alive. During winter I stamped the snow about them, to prevent the mice from approaching them, but snow falling to an unusual depth, and drifting over them, they were soon out of my reach; and as the snow wasted away beneath, the little marauders spared *not a tree.*

Stamping the snow about them when it is but a few inches deep, is an effectual remedy; but is there nothing that may be put around the tree to repel them, which will not be detrimental to it? Has any one tried pure swine manure, placed around them; and has any one known mice to work in it, or under it? What effect would *tan bark* produce on the tree, and will the mice work in it? S. E. Todd.

Lansing, Tompkins co., N. Y., May, 1843.

DESTRUCTION OF CATERPILLARS.

Messrs. Gaylord & Tucker—Having been exceedingly annoyed for many years by the leaf devouring caterpillar, I have at various times tried several expedients to destroy them, and among other things turpentine, sulphur, &c., but have invariably failed, until I discovered that the spirits of Hartshorn, applied by means of a sponge attached to the end of a pole, and thrust into the midst of the web, caused instantaneous death to all living matter coming in contact with it.

I am now sowing charcoal dust on my wheat, at the rate of fifty-two bushels to the acre, and will give you the result of the experiment in the fall.

Yours, truly, Rob't L. Pell.

Pelham, Ulster co., May 16, 1843.

Domestic Economy

BUTTER MAKING.

We have been favored with three replies to the inquiry of "The Neighbors," on the subject of making butter, published in our last number. We annex two of them—one from a lady of Vermont, to the superior quality of whose butter we can testify, and the other from a lady of Orange county, whence comes the best butter found in the New-York markets. In our next, we shall give the reply of "L. B., a farmer's wife," of Madison county.

Messrs. Editors—A request has been made through the medium of your paper, for some practical dairy woman to give a minute description of the process of making good butter—the kind of pan, churn, ladle, &c.; but my own experience is all I shall attempt to relate, and that will not comprise information with regard to improved materials, or any great variety; for I used the old fashioned brown earthen pan, and a churn that might have been manufactured from some of the first timber ever felled in Vermont, and the only ladle used was my hands.

The process of setting and skimming the milk—removing the cream preparatory to churning, and separating the liquid from the butter, after having been thoroughly churned, demands great attention. Great care should be taken to have the pans perfectly cleansed. Never having practiced making butter to any extent in mid-summer, there are some items in my experience that would not be applicable to those who are engaged in the business for the whole year. My practice was to place the pans, after cleansing, around the fire, keeping them warm till wanted for the milk, which was strained while warm into the pan, and placed immediately upon a shelf, where it should by no means be disturbed until the time of removing the cream, which varied from two to three days, depending upon the heat, cold, or dampness of the weather. The milk was not suffered to become acid,* or at all thickened; and the cream when taken from the milk, was separated from it as entirely as possible, and churned in three or four days, and always at evening in cool weather. Cream was removed from the milk into a stone jar, and kept closely covered until a sufficient quantity for making twelve or fifteen pounds was obtained. The churn was prepared for the cream by the application of boiling water, suffered to remain in it thirty or forty minutes, when it was removed and the cream put in to stand a little time before churning, and occasionally stirred by raising the dash. It was then churned moderately at first, the rapidity of motion increasing as the cream thickened; nor was the labor suspended until the butter was collected into one mass; it was then removed to a wooden tray or bowl with the hands, pressing out all the buttermilk possible, and a little salt added, when it was removed to a cool place to remain until the following morning; then thoroughly worked and a little salt well mixed, and again placed in the dairy for several hours, when it was again carefully worked, and if necessary, salt added, and a tea spoonfull of salt petre with twice the quantity of white sugar pulverized, to every six pounds of butter. It was then made into small rolls, and carefully packed in a firkin. If to be kept through the summer, brine should be made to cover it.

If I have not been sufficiently definite in relating my experience in butter making, to enlighten one person, to say nothing of "The Neighbors," it may have a tendency to elicit some other person's experience which shall be decidedly beneficial not only to "The Neighbors," but to the community. Martha.

* A little acidity of milk will not at all impair the sweetness of butter.

Messrs. Gaylord & Tucker—In the May No. of the Cultivator, "The Neighbor's" propound some questions as to butter making. Living as I do in Orange Co., which ranks A, No. 1, in the manufacture of butter, I felt an anxiety to give the desired information, and for this purpose have obtained the following directions from an aged female friend, who for upwards of 40 years, has had the management of a large dairy, and has probably made and packed down 1500 firkins of the very choicest Orange Co. butter, with her own hands.

Here you have it "*verbatim et literatim.*"

Newburgh, May 15, 1843. T. M. Niven.

One of the first requisites is perfect cleanliness in every utensil and implement used about the dairy. The butter should always be made and worked in a cool cellar. The milk pails (wood is preferred,) should never be used for any other purpose; they should be thoroughly cleansed daily, and be well aired and dried after washing. Immediately after milking, the milk should be strained into tin pans usually holding 12 or 14 quarts—the pans of course being clean and sweet—a little cold spring water being put into each pan before the milk is put into them.

In warm summer weather, the milk should stand in the pans about 24 hours, or until it becomes thick. The milk is then thrown into the churn, filling it about half full, (always remembering the first requisite of cleanliness and sweetness,) and is permitted to stand about half an hour before the churn is started. Care is to be taken that the churn works moderately, as too great rapidity of motion is injurious both to the flavor and color of the butter.

Dissolve one table spoonful of saltpetre to 15 gallons milk, and put it in before the churn is started, adding as little water as possible during the process, merely to prevent the milk frothing. As soon as the butter is formed, the churn should be stopped. A pail full of cold spring water may now be added, as it will assist the gathering of the particles of butter. The wooden butter ladle and tray are now required; they both need scalding with boiling water, and are then kept in cold water until the moment they are needed. The butter is gathered with the ladle and put into the tray, where it is worked with the ladle for some time, until the milk is all expressed from the butter, a little cold water being used for this purpose. Too free use of water at this stage is injurious, as it tends to destroy the rich flavor of the butter.

The salt may now be added, (best Liverpool fine salt is preferred,) and as a general rule I would say one quart of salt to 15 gallons of milk, but a little experience will enable every person to judge of this for themselves; the salt should be thoroughly worked through the butter. In very warm weather it may be necessary to let the butter stand in the tray 12 to 18 hours, in a cool dark cellar, frequently working it over during this time, and expressing the brine until it becomes cool and solid; it is then in a situation for packing away in the tub or firkin, and should be carefully excluded from the atmosphere until used.

LARD FOR LIGHTS, &c.

Messrs. Gaylord & Tucker—One of my neighbors last summer got a lard lamp at Oswego, with a wire attached to heat the lard, which proved a "no go." Even some of our oil we buy at the stores is ditto, to my certain knowledge. What then do you suppose I thought when one of the family told me that two of the neighbors burnt lard in common lamps, and she should try it in ours. Why I thought the manufacturers of lard oil would not have so good business after all, if folks should generally find the plan to work well. However, I did not feel much afraid of its injuring their business much. Our lamp was filled with melted lard, and it burned so that I pulled down one of the wicks, and then it gave nearly as much light as common oil with two wicks. Just before using, we fill up the lamp with melted lard, and if it is liquid at the bottom of the tubes, it will burn well in our store room, though pretty cool, till it gets one-fourth of an inch below the tubes, and give a brighter light than any oil I ever saw.

Making Cows milk easy, with a penknife, was a thing that seemed about as strange to me when I first heard of it, as burning lard in a common lamp. However, experience proves that a penknife blade of a proper shape, or a harness awl, which is better, inserted in the hole of the tit that milks hard, improves the milking process very much. Fill the tit full of milk, and put in the instrument the proper length, without touching the sides of it, and

most cows, I think, will not flinch, if the knife be sharp. All that is cut is a thin skin, and the pain is trifling. If the cut is not too large, the cow will not leak its milk, but if it is made to milk as easy as those do that leak, the effect will be similar.

Cotton Shirts, it is said, when half worn, will last as well in hot weather as new ones. I suppose the assertion is not far from the truth, and am full as sure that new ones are the most comfortable in cold weather, and thin ones in warm weather. Accordingly, when warm weather comes on, I want enough half worn shirts on hand to last me through it, and when cold weather comes on a plenty of thick ones; I should not care if they were twice as thick as I can commonly get. The cloth I am sure, need not cost much more per yard, nor the making, buttons, or thread, much more, while I am certain they would be as warm and last as long. CEPHAS.

Hannibal, N. Y., 1843.

TO COLOR RED AND YELLOW.

To color red and yellow, we give the following receipts, which we are assured by those most competent to judge, will produce superior colors. The receipt is for dyeing wool or woolen cloth.

To dye one pound of yarn or flannel requires the following articles:

3 ounces of alum,
1 " cream of tartar,
8 " of madder,
¼ " of stone lime.

1. Prepare a brass or copper kettle with about five gallons of water, bring it to a scalding heat, then add three ounces of alum pounded fine, and one ounce cream of tartar; then bring the liquor to a boil, and put in the woolen and boil it for two hours. It is then to be taken out, aired and rinsed, and the liquor thrown away.

2. Prepare the kettle with as much water as before, and add to it eight ounces of good madder pounded fine, and well mixed in the water before you put in the woolen. When the dye is as hot as you can bear your hand in, then put in the woolen, and let it remain in the dye for one hour, during which time the dye must not boil, but only remain at a scalding heat, observing to stir about the woolen constantly when in the dye.

3. When the woolen has been in one hour, it is to be taken out, aired and rinsed.

4. Add to the dye one half pint of clear lime water, which is made by slaking half an ounce of lime to powder, then add water to it, and when settled, pour the clear part into the dye, and mix it well. Now put in your woolen, and stir it about for ten minutes, the dye being only at a scalding heat. It is then to be taken out and rinsed immediately.

N. B. If you wish the red very bright, add quarter of an ounce, or nearly half a table spoonful of what dyers call aquafortis composition, at the time of putting in the madder.

For yellow dye the same proportions as for red, excepting that for the eight ounces of madder, one pound of fustic is to be substituted. The woolen must be boiled in the alum and tartar water an hour and a half, then taken out, cooled and rinsed slightly.

In a new liquor put in your fustic, secured in a thin coarse bag, and boil it for two hours; then take out the fustic and put in the woolen, and stir it while boiling for one hour. Then to be taken out, cooled and rinsed.

PRESERVATION OF ISABELLA GRAPES.—At the Horticultural rooms on Saturday, we saw a bunch or two of Isabella grapes of last year's growth, in a very tolerable state of preservation. They were exhibited by Mr. J. L. L. F. Warren. He had packed them in cotton last autumn, and placed them in a closet, where they had been left *forgotten*, until the time of spring house cleaning.—*N. E. Farmer of May* 24.

TO MAKE FRENCH ROLLS.—Take a spoonful of lard or butter, 3 pints of flour, a cup of yeast, and as much milk as will work it up to the stiffness of bread; just before you take them from the oven, take a clean towel and wipe them over with milk.—*Nashville Ag.*

"VALUABLE COWS," AND TOUGH STORIES.

MESSRS. EDITORS—There was a clergyman "down east," who had among his parishioners a young man who was more remarkable for plainness of speech than courtesy, and who sometimes got himself into difficulty by calling things by their right names. To prevent this, the minister one day hinted to him, that when a man asserted what he believed to be false, it was impolite to tell him he lied, but that dissent might be expressed by a whew! or whistle, proportioned in intensity to the enormity of the offence. The clergyman was one of those who explain as the result of natural causes, all the miracles recorded in the bible. The very next sabbath his text related to the loaves and fishes that fed the multitude in the wilderness. The loaves he contended were not ordinary loaves, but of the size of Mount Tom, referring to a well known conical hill in the vicinity. At this point of the discourse, the clergyman and the audience were electrified by a whistle so shrill and prolonged that many sprung to their feet. "What!" said the clergyman, turning to Jonathan, "you disbelieve me do you?" "Oh no;" was the prompt reply; "I was only thinking what an oven they were baked in!"

Now I sometimes read the papers, and I am so easy of faith, that I am able to swallow nearly every thing I find in print; but now and then I meet with something that will not go down, no way I can fix it. In the N. G. Farmer, for May, I met with the following stumper, copied from the *Conn. Farm. Gaz.* "Valuable cows. Mr. Samuel Baldwin, of Washington, Ct., made, between March 4th and December 8th, 1842, from two cows, besides supporting a family of two persons, four hundred and thirty-nine pounds of butter, and twelve hundred and fifty-four pounds of cheese."

I rubbed my eyes and read it over again to see there was no mistake. Two hundred and nineteen and a half pounds of butter to a cow! said I to myself. Well that *might* possibly be, though the best butter dairies in the country rarely average one hundred and eighty pounds to a cow; and when Deacon Green's old red made in the whole year 200 pounds, it was thought most marvellous. But in addition to this, here was six hundred and twenty-seven pounds of cheese to each cow; more than was ever before made from any cow in this country, when the whole milk, cream, butter and all went in, and full double the yield of ordinary dairies! But my good genius whispered that it was not best to whistle yet, and suggested that the cheese might be *white oak cheese*, that is cheese made from milk from which all the oily matter has been skilfully extracted, and that in this way *all* the butter and *all* the cheese might be separately obtained. The answer to this was, that in all the butter and cheese making I had ever seen, there would be butter-milk and whey, a little at least, and here was scarcely any provision for either. Thus you see that like many other folks, the more I studied the worse off I was, and finally, after every effort to go it, and even pinning back its ears and greasing it, *a la Crockett*, am unable to swallow the '*critter*.' Still the fault may be in *my* faith, and not in the story: if so, let the good old land of steady habits have the glory of possessing two cows, "unrivalled and unequalled." So says one who boasts of being a CONNECTICUT BOY.

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SALE OF DURHAM SHORT HORN CATTLE AND SOUTH DOWN SHEEP.

THE subscriber, desirous of reducing his stock, will offer for sale, at auction, on Wednesday, the 15th of September next, at 10 o'clock, A. M. at Three Hills Farm, 3½ miles west of the city of Albany, on the Cherry Valley road, 25 head of cattle, consisting of bulls, cows, heifers and calves, and between 70 and 80 head of South Down sheep, consisting of bucks, breeding ewes, yearlings and lambs, bred from the stock imported by Mr. Hawes in 1832, and from bucks imported since.

Messrs Corning & Sotham, will also offer at the same time and place, some of their celebrated HEREFORD BULLS, of different ages. C. N. BEMENT.

Three Hills Farm, Albany, June 1, 1843. 4t.

WARREN'S HORSE POWER AND THRESHING MACHINE.

THE subscribers, the venders and sole agents for these machines, as now made, offer them with the fullest confidence to the farmers as being those which may be relied on for efficiency, &c. in accordance with recommendation, and as therefore suited to their wants, and being at the low price of $75, for a two horse power and threshing machine, must necessarily cause them to be generally used.

L. BOSTWICK,
J. PLANT,
New-York, May, 1843. 2t. 58 Water st.

BADGER'S HORSE POWER, &c.

BADGER'S Horse Power, of which a cut and description is given in another part of this paper, is manufactured at Auburn, N. Y., by the subscribers. The price for

Horse Power and Thresher, ... $115-00
Horse Power alone, ... 90-00

Also manufactured and for sale by the subscribers, Hussey's REAPING MACHINE and CORN CRUSHER, which took the first premiums at the State Fair held at Albany, in 1842. All orders punctually attended to.

HUSSEY & BURGESS.

Auburn, N. Y. May 16, 1843. 2t.

POUDRETTE,

OF a superior quality, may be had immediately, on application to the New-York Poudrette Company, 23 Chambers st New-York. Price, three bbls. for $5—or ten bbls. for $15, delivered on board vessel. Orders with cash, may be addressed to the subscriber, 23 Chambers st., New-York.

May 23, 1843. D. K. MINOR.

PLOWS, PLOWS.

THE subscriber has just received an extensive assortment of Center Draft Self-Sharpening Plows, made from the best materials, and are warranted to work well. Also Subsoil Plows of three sizes, suitable for one, two or three horses, for sale at the following prices, viz:—No. 1, $8; No. 2, $10; No. 3, $12, with an extra point to each. Also Straw Cutters, Corn Shellers, Corn Planters, Fanning Mills, Hoes, Spades, Shovels, &c Garden, Grass, and Flower Seeds, for sale at wholesale and retail, on liberal terms, by D. O. PROUTY,

May 15, 1843. 2t. No. 176 Market st., Philadelphia.

CUMMINGTON SCYTHE STONES.

THE attention of farmers and all who use whetstones throughout the United States, is respectfully invited to an article now manufactured from the celebrated "Robbin's Ledge," by J. S. Stafford & Co., Cummington, Mass. The decided superiority of these stones is acknowledged by all who have given them a trial, and the eager demand for them from those sections of the country into which they have been introduced, is the best recommendation that can be given them. The public are requested to satisfy themselves in regard to the merits of the above article, by giving it a trial. For sale at the manufactory; also by *Wood & Folger*, 219 Pearl-street; *William H. Wight & Co.*, 100 John-street, and *Clark & Wilson*, 7 Platt-street, New-York—*Humphrey & Lansing*, and *Van Alstyne & Son*, Albany—*Kelloggs & Co., Warren. Lesly & Hart*, Troy, N. Y., and will be furnished at the principal villages throughout the country.

Orders addressed to FRANCIS BATES, Agent, Cummington, Mass., will be punctually attended to. April 11, 1843.—3t

REPRINT OF CHAMBERS' EDINBURGH JOURNAL.

To be published at the Albion office, 3 *Barclay-street, New-York.*

EXTRACT FROM THE PROSPECTUS:—It has long been a matter of surprise, that amidst the almost countless number of reprints of British works daily issuing from the American press, the above has not formed a part of them.

Chambers' Journal is conducted by William and Robert Chambers. It is extensively circulated throughout the British isles, and commands commendation and respect wherever it is known.

In order to put this work within the reach of all classes of the public, we have determined to issue it at the very low price of one dollar and a half per annum; and also to furnish it to agents at a discount from this price of thirty-three and a third per cent. And in order to disseminate the publication still more extensively, we have determined to give individuals or companies of individuals who may order five copies, the advantages possessed by agents, and to extend to them also the benefit of the discount. A remittance of five dollars, then, provided it be in funds at par in the city of New-York, or not more than five per cent discount, will command five annual copies to one address.

The publication is weekly, contains eight pages, and is printed in the quarto form, with neat type and on good paper. Our edition will be an exact transcript of the Edinburgh copy.

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WILLIAM LACY, Agent, Daily Adv. office, Albany.

"THE FARMER'S LIBRARY."

THE CULTIVATOR was commenced by JUDGE BUEL, in 1834; its motto and its object, "*To improve the Soil and the Mind.*" Faithful to this great end, the Cultivator from the first took a high rank among the periodicals of the time; and rapidly extending its influence and securing the aid of able co-laborers, while it numbered among its contributors the most distinguished and intelligent of American agriculturists, its position, as an organ of the farming interests of this country, soon became second to no other journal of its kind, in circulation and usefulness. From the first it has been the depository of a mass of facts in relation to agriculture, rarely found in any series of volumes; and the favor with which it has been viewed, and the ample support accorded to it, may be in a great measure attributed to the practical nature and value of the papers with which it has been filled. The first six volumes contain the rich fruits of the labors, experiments, and matured experience of JUDGE BUEL. At the time of his lamented decease, the Cultivator passed into the hands of the Proprietor and Editors of the Genesee Farmer, with which publication it was united, and by whom it has since been conducted. Of the four volumes that have been published since it passed into the hands of the present conductors, it does not become them to speak; but if the large, not to say unprecedented support they have received, and the numerous testimonials of approval freely given them, may be taken as evidence of the manner in which their labors have been viewed by the public, they have abundant reason to be satisfied. This high standing of the Cultivator, no pains or expense will be spared to maintain. In matter, in execution, in its illustrations, it is intended it shall be without an equal or rival:—that it shall be eminently worthy of the name which has been given it, of "THE FARMER'S LIBRARY." Embodying as it does, the practice of numbers of the ablest agriculturists of the country, it is believed no work can be found, from which the information, in all its details, so necessary for the American farmer, can be obtained so perfectly or at so little cost, as from the Cultivator. The series, in truth, constitute a Farmer's Library of the most comprehensive kind. As the work is stereotyped, the whole series can be furnished to those who wish it, and the constant demand for the back volumes proves that it is in the light of a library for the farmer the whole work is viewed by the public.

The first four volumes are furnished at 50 cents each, and the remainder at $1,00 each. Annual subscription, $1,00. The vols commence with the year; and any person wishing to obtain one or more vols. can do so by remitting their money through their postmaster, to LUTHER TUCKER, Publisher of the Cultivator, Albany, N. Y.

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